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OUR PYRAMID OF LIFE

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WHO FIRST SAW

OUR PYRAMID OF LIFE

A Grand Philosophy of Evolution

by

A. A. WILLIAMSON

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New York

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This was the truest warrior
That ever buckled sword;
This the most gifted poet
That ever breathed a word;
And never earth's philosopher
Traced with his golden pen
On the deathless page, truths half so sage
As he wrote down for men.

(From "The Burial of Moses"
by Cecil Frances Alexander
1818-1895)

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PREFACE

It has often been said that a preface is a work of supererogation: "Nobody reads one nowadays anyhow." Nevertheless, some explanation of the genesis of this book seems required, and the only fitting place for it is in a preface. Accordingly, I disregard the aforesaid dictum and hope that others will, too.

When I was a young man, Fate decreed that I should go to the Far East, charged (among other duties) with the task of learning not only to speak but also to read and write the Japanese language. Mastery of a minimum of 5,000 of its ideographs (or Chinese characters) was required. Not being satisfied with minimums, I set myself a goal of 7,000, and reached it.

I soon discovered that to learn a language is to acquire a viewpoint and imbibe a philosophy, for both are embedded in any language native to a people. Through language study, I was introduced to Oriental philosophies and religions, or crystalized and formalized attitudes toward life and the world in which we live. Into these I went quite deeply, exploring this one and that as occasion arose and time allowed.

Inevitably, I began to make comparisons and slowly to work down to fundamentals. The comparisons were not limited to philosophical and religious content but included effects. For, having always had a lively interest in history in both its arbitrary departments of natural and human, I was persuaded that a good philosophy or religion ought to have good effects and a bad one, bad. And so, as my studies broadened and deepened, I began to have less and less respect for Oriental philosophies and religions. Their imagery, the language in which they were expressed—their vehicles, in a word—were certainly beautiful enough, but the effects they had produced were far from admirable. They were lovely flowers of the mind, no doubt, but

they blossomed above a veritable dunghill of suffering, degraded, poverty-stricken, diseased and hopeless humanity. Yet it was a long time before I realized fully the criterion by which I was judging them and the implications of it.

What is it that distinguishes a good religion or philosophy from a bad one, and why is it good or bad? The answer is, of course, that broadly held religions and philosophies govern the life of the people or peoples that hold them. They regulate the economic and mental life of society and further harmony and solidarity, or they produce cleavages and are obstructive and deleterious. For what really matters is the well-being of the people individually and collectively as society. The criterion is therefore wholly sociological, and it is—I believe—the only valid one. A religion or a philosophy (they are not the same thing) is finally to be judged by its sociological effects, just as a tree is to be known by its fruits.

I began to discover, moreover, that in theological disputation every *pro* has its offsetting *con*: that for every argument weighting one side of the scale there is another, equally cogent, depressing the other. That was why theological argument never seemed to get one anywhere: no fixed and certain truths emerged except such purely sociological ones as, Thou shalt love thy neighbor as thyself, which anyone could hold and practice, be he religious or irreligious in the sense of not subscribing to any religious dogma or creed.

In the course of time, puzzled by this disputational stalemate and lost in the welter of asseveration and equally firm rebuttal, I began to ask myself, What do we really know that cannot be disputed and that will stand the most searching scientific and historical criticism? I insisted on those two because science is at least impersonal, unemotional, and has no doctrine to maintain at all costs, but is engaged in the pursuit of truth uninfluenced by beliefs or any other prepossessions; while history records the long-range practical effects of governing concepts, philosophical or religious. History did not seem to favor religion, for it showed it to be divisive, disruptive, and, wherever it rose

to supreme power, destructive—from ancient Egypt to medieval and modern Spain. Moreover, history seemed to indicate that the more advanced a people, a nation, or a civilization became, the less did it concern itself with religion—from ancient Greece to modern America and Britain. At times of crisis there undoubtedly was some return to religion even in such countries, but it appeared to be somewhat of a Hobson's choice and not of a permanent character. Such unbiased statistics as I could find supported this impression, as is still the case.

In my search for fixed truths on which I could rest with confidence, I eventually decided that—aside from the proverbial death and taxes—there was at least one truth which applied to all living things, past and present, and would apply equally to those of the future. That was that they all must eat, or (as I was later to revise it) receive sustenance.

This fundamental, this indisputable, truth underlies and is basic to all others developed in this book.

Then why have I written a book about Moses and not about those truths directly and at once?

There are two principal reasons. First and foremost, I am quite sure that, had it not been for the long hours I spent in trying to discover why the Old Testament, by bulk as by position, is the most important part of the Bible (for all the rest grows from it), I would never have grasped the true significance of the pyramid of life or worked out any of its principles.

Often did I sit on my verandah, hot nights in the Philippines, poring over the Bible—like Gordon at Khartoum, but with what a different purpose! Why should it all start with Moses, with the Pentateuch—literally the "five books" so long attributed to him? Why did God choose a murderer and a renegade Hebrew for his mouthpiece and agent? My study began to concentrate on Moses, and much that appears in his "writings" became so familiar to me as to be recalled without effort. But I seemed to make no progress at all.

Then, at long last, various points began to clarify themselves. As I walked the hills for exercise; as I lay, with long hours to

kill, on my cot on the deck of an inter-island steamer, placed there under the awning for coolness; or as I contemplated the exotic flora and fauna about me, suddenly out of nowhere the thought would come: "That was what Moses meant when he said such-and-such!" And understanding would flash upon me where all had been darkness before. That burning bush, burning (as I now read it) with the fire of life and therefore unconsumed: I saw it, too, right there before me. That sacred soil, out of respect for which, "take off thy shoes from off thy feet, for the place whereon thou standest is holy ground": I, too, stood upon it, for from the ground, through the food we eat, come we all. The great Mosaic allegories: I began to sense their meaning, a bit of this one, a part of that.

Thus came to me the elements of my concept of Moses as first diviner of the pyramid of life and the great seer of its implications, a Builder indeed! But they came to me haphazardly, without order or coherence. I had to correlate what I had found, putting it together as best I could until the pattern emerged. It was an extended process, for I am a slow thinker and I had work to do which took precedence over even that since I, too, had to eat! Also, my stock of information was still inadequate. I did not know enough about ancient Egypt, for one thing, until the magnificent work of James Henry Breasted set things in order for me there. Frazer's GOLDEN BOUGH also gave orientation. And many another author whom I cannot now recall helped in lesser ways.

As the pyramid idea took shape, I found it explaining history in a most illuminating way. And it did not run counter to modern biological science except in some details for which it seemed to me excessive claims were being made. I was later delighted to find that many of the same details had been looked upon in much the same questioning way by so sane a thinker and so eminent an authority as the late Dr. William Morton Wheeler. I refer particularly to his views on the slow conversion of habit into instinct; the inheritance of acquired characteristics; the dependence of form on function; and especially the reality of societies as true organisms in fact and not by analogy.

I am happy in my belief that, were Dr. Wheeler alive today, he would not find the pyramid of life idea developed in this book of mine an absurdity but, rather, an idea deserving further study and greater elaboration, such as I cannot give it.

Much that biological science has established could not, of course, have been known to Moses. But what it has established only confirms and extends what anyone who once truly sees the pyramid of life can know in that general way which is yet sufficient, and which Moses not only could have discovered but —I truly believe—did discover.

The point here, however, is that, without Moses, I do not believe I would have had more than the passing acquaintance with the pyramid of life that almost all have who are interested in biology, or made more of it than they do. For, just as Moses communed with Nature and his God, so did I commune with Moses and with Nature. Neither one alone would have had the effect that both together did.

In making this a book about Moses, I am both acknowledging my debt to him and offering something in payment in the only possible way.

My second reason for centering this book upon Moses needs some discussion.

The democratic world today is in great need of a basic concept relating its principles to natural law, which is the last court of appeal and to which its competitor doctrines are related by their proponents, even if wrongly. The democratic faith cannot meet and defeat those other faiths in the great competitive battle for dominion over the mind of man unless it can show that it is just as firmly rooted in natural law as they are claimed to be. The more indisputable the proofs of its own rooting and the more incontestable the derived truths, the more surely will democracy sap the strength of its antagonists and eliminate them from the competition. If democracy will adopt the concept of the pyramid of life, implemented by emergent evolution, then that concept will soon prove its power to arm democracy with all the necessary disputational weapons.

It may be argued, however, that the whole idea is too coldly intellectual to have the emotional appeal still so necessary to the production of a mass effect through popular acceptance.

At first sight, this objection appears unanswerable. For it is true that not until the implications of the concept are realized can it seriously engage even the intellect. But, once its personal, community, national, and international applications are grasped, it does assume all the appeal necessary to move the emotions and to inspire even the many. To give it that appeal by exegesis and proclamation is a task for teachers and leaders of thought capable of expounding it in the necessary manner. In so doing, they will be helping to bring about that rapprochement between science and religion which has long been so desirable, even though they will be doing it by assisting in the metamorphosis of religion from a matter of emotional creeds and dogmas to one of factualities —a metamorphosis which appears slowly to be occuring despite all efforts to prevent it.

But (and this I wish to emphasize) how much more effective for many may the appeal be if it can be shown that it was this same idea that ruled the lives of those spiritual luminaries, Moses and Jesus of Nazareth, even though it was never explicitly formulated and announced! For a transition may often be fairly easy when a complete *volte-face* would be impossible.

The interpretation offered in this book does not require anyone to turn against his Bible but merely to read it by a different light. It may, indeed, even cause some to take up again the Bible they have regretfully laid aside.

The hope that this book may not be without some effect in these general directions—ambitious though that hope may be—has influenced me to write it and to give it the character it has.

It hardly seems necessary to add that, although the pyramid of life was just as easily to be seen and its principles just as obvious thousands of years ago as they are today, the two periods are separated by a wide advance in human knowledge. To realize what the pyramid means, and to sense in it the operation

of some implementing force, then required exceptional mental independence and vigor. This is not so today. For today, when the theory of evolution is commonly accepted, the way to the perception of the pyramid is already prepared and made smooth, even for the most mediocre mind.

Today, moreover, it is possible to work out prosaically the details of a general concept which, in those distant days, must have seemed to come with all the force of divine inspiration and revelation. No wonder it was so treated then, or that it does not have quite that quality today!

And yet. . . to see and understand it even now—to pass (recalling an expression from Emerson) the doors of its temple, standing open day and night for all who will to enter—requires something akin to an intuition. But first the attention must be fixed upon the pyramid of life as it is to be seen around us everywhere. How strange that the human mind, soaring aloft on the wings of imagination, has overlooked the truths that grow from the ground beneath our feet!

We seem to be entering a new age. A new age must have a new faith, and the world is seeking one today for the spiritual regeneration of mankind.

Having built this conceptual Palace of the mind for my own private use; having lived in it some twenty years or more; and having expanded it, straightened its walls and reenforced them as advancing knowledge, coming to my attention, has made it possible, I have found it grown great enough to be opened to others, to use it if they will.

By the act of publication, I am now—in the striking imagery of Kipling's poignant poem—calling my workmen of thought from "my quarries, my wharves, and my shears." All I have built I now abandon "to the faith of the faithless years." No longer shall I be able from time to time to wander through it, improving its fittings, bettering its furnishings, adjusting, polishing, retouching its embellishments, planting new fruits in its curious garden—all as new knowledge shows the way. And so there is a

certain sadness in this parting. For, with publication, that right of private ownership is ended forever.

What recompense have I? The hope that as what was the Palace of my mind comes to be known, a goodly company will come to stay awhile in it, even if they use it but as a wayside inn on a Road which, already, will lead past it and beyond. (O Travelers, may the Road be straight and wide, well laid and beautiful to see!) And I dare hope that when the great Builder comes whose work will establish the new faith in wisdom, strength, and beauty, some musty copy of this little book may chance into his idle hands. As he carelessly turns its pages, will he find that ancient message "cut in the timber," and even "carved on the stone"? Will it "tell him I, too, have known"?

It was the Palace of my mind. But now, O Reader, it is yours, to do with as you will.

THE AUTHOR.

PART I

CHAPTER I

INTRODUCTION

When, as a young man, Moses slew the Egyptian and fled the country, no one would have thought it possible that, in time, his name would head the list of the world's great men. Yet to him has been accorded such honor as no other human has received. Three of the world's major religions—Mohammedanism, Judaism, and Christianity—all place him high on the list of their worthies. And, if there be virtue in the ancient Greek practice of according priority to him whose name was found among the highest on the most lists, then the name of Moses does indeed stand second to none.

How did it come about that this man—a murderer, a fugitive from justice, a renegade, and a refugee among the nomads —should have risen to such heights of prominence? The theologians' answer is that it was because God chose Moses as His instrument, working through Moses upon the Chosen People, the Jews. But modern skepticism looks askance upon such explanations and seeks more commonplace, more rational, causes.

It has been shown by the late eminent scientist, Dr. William Morton Wheeler, in his instructive book, PHILOSOPHICAL ESSAYS IN BIOLOGY (1), that the historical method can be applied successfully to the solution of such mysteries as what he calls *hapaxoreic* instincts in insects, or those which "are manifested only once and with great adaptive perfection during the life of the individual organism." (Ref. 2) In the absence of any possibility of instruction from or imitation of others of its kind, the individual insect performs an act essential to its existence or

relating in a particular way to the perpetuation of the species, and does it with complete success the first and only time it is called upon to make the effort. That the insect should know what to do and how to do it is usually explained by ascribing it to instinct. But Dr. Wheeler has demonstrated that even instinct can be rationally explained *if* the phylogenetic history of the species is known in all its pertinent stages. The effect is to rob the particular instinct of its mystery, substituting understanding through knowledge. But this can be done only when sufficient historical data are available. Without such data, the mystery remains enigmatical.

Now, what Dr. Wheeler did for instinct among insects in the way of explaining away its mystery can be done with reference to other mysteries, but only with the same proviso: that the necessary historical data be available.

The historical method is, indeed, in common use. Lawyers and judges, for example, depend upon it in interpreting some knotty point of law, when the debate preceding the passage of the governing statute is examined in order to determine exactly what the legislators had in mind when it was enacted. Numerous other instances will occur to the reader. The historical method needs no justification. And if an attempt to apply it to the mystery of Moses is to be made (as it is proposed to do in this book), the main question is whether there are sufficient reliable data available to make it possible.

The answer to this question is both Yes and No. For, while many important details are lacking, so that there is no certainty about them, there is nevertheless ample material of a general nature that permits reasonable inferences to be drawn. That material encourages resort to the historical method.

First, however, it is well to ask another question. Is Moses an authentic historical figure, or is he just myth? On this matter the consensus of qualified opinion is that such a person did actually live, and as a great political figure if nothing more. Breasted is somewhat cautions and noncommittal but he does seem to accept the actuality of Moses. There appears to be sufficient reason, then, to treat Moses as a fact of history.

Another preliminary matter to be looked into is the source of our information about Moses. That source is the Bible, or, more strictly, the so-called Pentateuch, comprising the first five books of the Bible which are commonly called the Mosaic Books. While these were long ascribed to Moses himself and were known as "the writings of Moses," it is now quite definitely established that Moses did not write them.

As far back as the twelfth century, Abelard and a few other daring souls had become suspicious of the Mosaic authorship of these books. For how could a man write an account of his own death and burial, such as is found in the thirty-fourth and final chapter of Deuteronomy? And why was the phrase, "unto this day," used there? It seemed to argue a later writer. But the Middle Ages were not propitious times for Biblical criticism, and so it was not until a fairly recent date that the true character of the Mosaic Books was determined, and by the so-called Higher Criticism (which is a method, not an attitude of mind).

It is now common knowledge that those "writings of Moses" were actually the work of a number of authors who, at various times, wrote out what they knew of the story of Moses and the Mosaic tradition. Before that it had all been handed down from generation to generation by word of mouth, in song and story, after the manner of illiterate or semiliterate peoples everywhere.

While the folklore of a people is seldom reliable as history, it usually contains considerable truth nevertheless, and much of real value can often be culled from it by judicious sifting, especially if (as in this case) there is confirmatory evidence from other sources. Archaeology has uncovered a considerable body of such evidence, so that the story of the Hebrew exodus from Egypt after a period of captivity there, together with many subsequent details of the Biblical narrative, may be accepted as authentic. Yet it is to be assumed that, sooner or later, the Hebrew "memorizers," the singers and story-tellers, would inevitably begin to color their particular versions to suit the ears of their hearers as circumstances changed. And even though they did it unconsciously, even though such alterations or accretions

might be but slight in any particular case, the cumulative effect might, in the course of time, be quite considerable.

Such considerations must be borne in mind constantly by the investigator desirous of screening out the mythological from the historical elements of the story of Moses. How successfully that has been done in the following pages is for the critical reader to judge.

Although the view of Moses developed in these pages differs very greatly from the orthodox, the Bible itself suffers no loss of dignity at its hands. Rather may respect for it be enhanced.

CHAPTER II

EGYPT, THE BACKGROUND

The life of Moses automatically divides itself into three parts. The first extends from his birth in Egypt to his flight therefrom. The second is the period of his life among the nomads. The third begins with his return to Egypt to liberate the Hebrews and ends with his death on Mt. Nebo.

From the biographical point of view it is deplorable that only the third period of Moses' life is treated extensively in the Mosaic Books. For it is obviously quite impossible to understand Moses, the man, unless we have some grasp of the forces and influences which operated upon him in the two earlier periods. They, of course, were the formative periods, and, unless we fall back upon divine interposition as the sole causative force, we are compelled to seek in them the motivations lying back of all that Moses did in the third period and which made him the mighty historic figure he became. The last period was the period of fruitfulness; it was in the first and second periods that there must have germinated and grown in him those ideas and driving impulses which merely fructified in the third as they were translated into action.

The first part of Moses' life, while the circumstances of it had great influence in shaping his mind, was comparatively less important than the second. We may pass over it briefly. Yet some discussion of the historic background may be profitable.

Egypt was, at that time (apparently in the thirteenth century B. C.), already an ancient kingdom and about to enter upon its decline after having been an empire ruling the whole of the then known world, from the headwaters of the Tigris and Euphrates to far back in the African wilds. Ikhnaton had already failed in his revolutionary effort to impose monotheistic worship

of his Sun-god, Aton, upon his people. But belief in a personal relationship with God had begun to spread among the people nevertheless, and conscience was expressing itself in a sense of personal responsibility unknown before anywhere on earth. The syncretism of worship of the Verdure-god, Osiris, with that of the Sun-god, Re, had been effected long since.

In reviewing the history of Egypt, reaching back so many thousands of years, one cannot but be struck by the evidences of the operation of natural law upon it.

Tens of thousands of years before national life arose in Egypt (and for the first time anywhere in the world), prehistoric man had already encountered a great law of Nature and had begun to conform to its compulsions. It is that no populous society of any kind can exist permanently in one locality without adopting, at least to some considerable extent, the vegetarian mode of life.

Millions of years before mankind appeared, certain insects had already made this discovery and had yielded to its dictates. Thus, some of the ants, although phylogenetically of carnivorous descent (having evolved from wasps), had passed successively from the solitary, hunter stage to the animal-husbandry, the harvesting, and, finally, to the horticultural stage. And it is only those ants which have become at least partially vegetarian that are able to maintain permanently located and highly populous colonies. The Driver ants of the tropics are still purely carnivorous, and it is for that reason that they are perpetually on the march, for their onslaughts soon exhaust a locality of all forms of animal life and they are then compelled to move on in search of that vital necessity, food. But neither the social insects, adopting vegetarianism in order to have an adequate and dependable food supply, nor men, doing the same thing for precisely the same reason, realized that they were obeying the dictates of natural law.

There is, however, a great evolutionary difference between insect and human societies. Whereas insect societies are highly individualistic, being fiercely exclusive and mutually antagonistic, even among colonies of the same species, human societies can and do cooperate and merge with others to form larger organ-

izations which, in time, become what we know as and call nations.

In the early stages of human history, such cooperation was probably the result of conquest and amalgamation. But cases where union occurred without conquest can be cited, at least in later history. And it is not impossible that the first steps toward national unity may have been taken by choice, with force entering in only after those first steps had been taken and when their advantageous results had become apparent, so encouraging further amalgamation, even by force.

History records the curious fact that humanity's first great national social organisms arose, not where agriculture was easily practiced, not merely along great river systems (the Nile, the Tigris and Euphrates), but where agriculture required the construction of irrigation works. The great rivers, rising in and flowing out of mountainous regions, annually overflowed their banks and deposited rich alluvial soil. But when the floods subsided, the hot, dry climate, with little or no rainfall, baked the earth, prevented the growth of a moisture-conserving plant covering, and made agriculture impossible. Strung out along the rivers, the alluvium could not be cultivated unless supplied with the moisture necessary to plant growth—by extensive irrigation systems. Their construction, maintenance, and management required concerted labor and centralized direction.

This combination of prohibitive natural conditions and human ingenuity in overcoming them appears to have been a powerful—almost a determining—factor in the early stages of the evolution of the world's first great nations. For one of the principal duties of the kingly office was undoubtedly to take charge of the irrigation work, building up the system of canals and reservoirs, maintaining it, extending it, and regulating its use through the allocation of water rights and the adjudication of disputes relative thereto. The extension of irrigation systems, free or enforced, would require a concurrent extension of authority, centralized and enforcible. Such authority would accrue to the kingly office, magnify it and establish it in power, but would also necessitate the setting up and development of an extensive

administrative organization subject to its direction. Irrigation would thus favor the formation of larger kingdoms out of smaller ones as one system was incorporated with another.

Among the factors favoring the development of civilization and national life were, of course, the single source of the water supply and the obliteration of landmarks by the annual floods. As a result of these, not only was any tendency toward isolated cultivation discouraged and joint effort encouraged, but a practical knowledge of geometry and surveying became necessary to the annual allocation of plots of land. For inundation made private ownership impracticable. From the over all conditions, the land was held to belong, not to individual proprietors but to the nation, being only parceled out for a season's use to individual cultivators.

In Egypt, a portion of each crop went into the national granaries as taxes, and, as that nation developed, was used to pay and sustain the immense army of laborers who, during the inundation periods, could not work the land but who could then be employed in constructing the great architectural works, the tombs and monuments for which Egypt is still so justly famed. At that time especially, the ponderous granite blocks of which those works were built could easily be floated by barge to their destinations. Meanwhile, employment on the great public works kept the laborers supplied with life's necessities, not the least of which was the cereal food they had no means of storing safely in quantity until the succeeding crop was in. In Mesopotamia, stone was not used, sunbaked brick being resorted to instead. But a similar civilization resulted from much the same set of conditions, especially irrigated agriculture and the consequent abundance of man-power.

It was in Egypt, however, and not in Mesopotamia that the great spiritual advances of ancient civilization were made. This (as Breasted makes so clear) was largely due to Egypt's geographical situation, which is without parallel anywhere in the world and is therefore unique. The Mediterranean Sea, lying to the north, protected Egypt from the severe climatic fluctuations caused by the advances and retreats of the ice-caps of the

Early, Middle, and Late Pleistocene, while the deserts to the east and west which resulted from the desiccation of northern Africa guarded Egypt from barbaric invasion. Thus the Egyptians were able to continue their social evolution for thousands of years without experiencing the stultifying effects of wide climatic change or suffering the devastations of warlike invasion. Both of these repeatedly overwhelmed Mesopotamian civilization, interrupting the course of its progress and compelling fresh starts to be made time and again.

Hence it was not in Babylonia but in Egypt that what Breasted calls the Dawn Of Conscience occurred. There, standards of what was to be approved or disapproved in human conduct were first conceived, developed, and slowly raised to higher and broader altruistic levels in response to the requirements of expanding social intercourse on ever improving material and political planes. From those standards of right and wrong, of justice and truth, a moral code was evolved which gradually assumed the aspects and authority of natural law.

It was in Egypt, too, that those rights of man which we cherish today had their inception—as products of the peculiar genius of the Egyptian mind. For Egyptian ideas of justice and its administration differed radically from the Babylonian in making no distinctions of persons. One law applied to all alike, without regard to rank, wealth, or social position. This was not true of Babylonia.

In Egypt, psychological development thus long kept pace with material and political progress to a remarkable degree. And in this, as in its geographical peculiarities, Egypt was unique. For, in Babylonia—as usually happened elsewhere through the ages—the balance of these three aspects of history was not maintained, the material or the political, or both acting together, outdistancing the psychological and leaving it far behind, with unhappy effect.

In Egypt, in the days of its glory and long after, records were kept of the successive rulers and their dynasties, and of the great national achievements. So far back did these records go that already the language in which they were written had

become obsolete and lost, so that only those who had been trained in the art could read the hieroglyphics, the ancient and therefore sacred carvings. But the unwritten history of Egypt extended far back of any knowledge of the Egyptians themselves. There was much in that unwritten, that unknown, history that was common to mankind.

The first intellectual age of man was the Age of Magic, so well analyzed and portrayed by (especially) Sir James Frazer in THE GOLDEN BOUGH. Magic was the universal faith in the hunter, the "food-gatherer," stage of man's existence. In the Age of Magic, man believed himself able to control the forces of the universe and bend them to his will. By false analogy, man had arrived at this belief from his own experience, and his acceptance of it was perfect and complete. Handed down from generation to generation as the hard-won wisdom of the ages; faith in it inculcated from earliest childhood and reenforced by daily practice of its precepts in complete obedience to and reliance on them, magic came to exercise a hypnotic power over the mind of man so deeply rooted, so firmly fixed, as to be unshakable. No later faith has ever been so widespread, so universal, or has so completely dominated the mind of man as has belief in magic. Even today, where it still rules (for it persists "unto this day," and not always among primitive peoples only), it has such hypnotic power that it can slay like deadly poison while medicine stands helplessly by. Nothing but psychological treatment can save from death a believer in it who is convinced that a lethal spell has been put upon him. For the power of magic is psychologic and hypnotic, all the more powerful for being autohypnotic, an unalterable mental fixation. No arguments can affect it or even pierce its armour of conviction. And yet we know it to have no foundation in truth.

When man—doubtless as a result of his own experience with the well-known "perversity of things"—began to imagine and believe in the existence of spirits residing in or controlling those things, whether living or insensate, even (at last) the grand forces of Nature themselves, then faith in animism added its power to belief in magic. Then the feared power of magicians

became all the greater and more fearful. For now the power of spirits augmented their own.

Around these men of power—men who could control destiny itself (except against still more powerful adepts)—the peoples gathered, glad to live under their protective care. Other influences were, of course, at work: consanguinity, language, manners and customs, all tending to create tribal out of family life. But it must have been magic and animism, working together, which brought forceful leaders to the fore and raised them to the status of chieftains and, ultimately, autocratic rulers who were at once both priest and king, exercising both the spiritual and the temporal powers.

Animism peopled the world with spirits, local and general. The more and more acknowledged power of spirits came in time to elevate them to the status of gods, an infinite number of them, ranked according to their power. But magic, the very laws of Nature itself, gave man control over even the gods. And so, while belief in magic and animism remained undimmed by doubt, man was not under the gods but *over* them.

This position of man relative to the gods was characteristic of the Age of Magic. It was long before those relative positions were reversed. But they were reversed; and, when that at long last occurred, then the Age of Religion had arrived. For, in the Age of Religion, man is not over the gods but *under* them.

Whoever studies the history of civilization cannot but be impressed with the fact that one of its greatest and grandest institutions has been that of religion, which seems to have accompanied civilization everywhere. It has even been held that civilization cannot long endure without religion. Certainly, it plays a major role in the psychic history of mankind.

Distinctions are not always drawn between magic and religion, and it is certain that some quite primitive peoples have had specific ideas of a universal Supreme Power of some sort. But there is a wide difference between such rudimentary religion and religion so systematized and formalized as to become one of the distinguishing features of civilization over a very long period of time.

Thanks to the work of James Henry Breasted and his fellow Orientalists and archaeologists, we have a case history of the rise of religion as an institution of civilization, and it seems to be the only case on record. Because of it, we can say with not a little confidence that the institutionalization of religion came as a direct result of the rise of national life. In that rise there were crucial moments.

It is now known almost conclusively that most of the Old World crop plants originated in mountainous districts: the bread wheats, small-seeded types of flax, certain leguminous plants, Old World cottons, the turnip, carrot, apricot and peach, in Persia, Afghanistan, the Punjab, and in the fold between the Hindu Kush and the Himalayas, with rye growing to the north and at greater elevations than the other grains. From Abyssinia came the ordinary barleys and probably emmer, among which oats appeared as a weed. Around the Mediterranean originated the hard wheats, large-seeded flax, other leguminous plants, the beet, olive, and fig.

As he found these fruits of the earth growing wild in these areas, man must first have gathered them without having yet become an agriculturist. Then, as he moved from place to place, he must have carried seeds of the useful plants with him and begun to grow them in the primitive stage of agriculture. In that stage, real cultivation is unknown, the seeds being merely dropped into a hole punched in the earth with a diggingstick and covered over with a push of the toe, or else they are sown broadcast. Then they are left to grow as best they can in competition with the natural growth of the place, the grasses, the herbage and shrubs of the locale. And so, despite a slowly accumulated lore of agriculture, its benefits must have been relatively slight because the crops were both uncertain and meager. Hence, agriculture was supplementary only, an eking out of the food supply and nothing more.

But when their wanderings had brought the primitive peoples to the valleys of the great river systems, the Tigris and Euphrates and the Nile; and when they had learned how, not only to drain the marshes but also to water the sun-baked alluvial deposits by

irrigation, then, for the first time, crops were grown which did not have to compete with weeds and wild growth. For those contestants could not exist in those arid regions, or, if they did spring up, they could easily be controlled, hoed out and destroyed. But the crop plants themselves flourished as they had never flourished before.

The food supply was now both certain and in overflowing abundance. And from that abundance of food came a great increase in population. At the same time, the expanding population was held to the same area by the necessity for continuous cultivation and the upkeep and extension of the irrigation works. And that (as has previously been emphasized) must have been the particular reason for the rise of the world's first great nations and civilizations along great rivers flowing through arid regions in the temperate zone.

It will be remembered in this connection that one of the causes for the decline of the civilizations of Yucatan in pre-Columbian times is now thought to have been the impossibility (from lack of iron implements) of controlling the wild grasses which sprang up in the cultivated clearings and took possession. However correct this explanation may be (and it is not entirely satisfactory), it points up the contrast between the conditions under which agriculture was practiced in the rainy, heavily overgrown Yucatan area and in the hot, dry, sun-baked areas of Mesopotamia and Egypt, where (except immediately along the river banks) nothing would grow without irrigation but also where, with irrigation, the returns to the agriculturist were both certain and great, and for century after century.

It will be recalled, also, that the wonderful and mystifying civilizations of northern South America (in so many respects unparalleled elsewhere) show just as positively the influence of agriculture by irrigation as do the Egyptian and Mesopotamian. The Incas, Nascans, and Chimus especially, designed and executed vast irrigation projects in normally rainless, desert areas, thus bringing literally millions of acres under cultivation and making possible the feeding of a teeming, sedentary population, without which no society capable of evolving a civilization can

exist. Ceylon also furnishes an example illustrating the relation between irrigation and the rise of civilization.

With the gradual development of agriculture as an art, and especially agriculture through irrigation, a slow process of political centralization must have begun. Slowly but inevitably the little principalities along the Nile in both Upper and Lower Egypt were fused into kingdoms. And, at some time not later than 4,000 B. C., a conqueror arose who united both those regions into one great nation, forming what Breasted began to call the First Union. This antedated by many centuries the formation of that therefore Second Union with which the numbered dynasties begin, starting with the Pharaoh Menes, about 3,400 B. C.

The great antiquity of Egyptian civilization is confirmed by a fact of interest to us all. It is that the solar calendar now used almost universally was instituted by the Egyptians in 4236 B. C., which is the earliest dated event in history. This Egyptian calendar was adopted for the Greco-Roman world by Julius Caesar, and was reformed by Pope Gregory in February, 1582. But the successful working out of a solar calendar as accurate (or so slightly inaccurate) as the Egyptian calendar was argues long extended observation of celestial phenomena, carefully kept records, and considerable skill in mathematics. Hence it is certain on this ground alone, that Egyptian civilization must have been well advanced long before the solar calendar came into use late in the fifth millennium B. C.

This great feat of the Egyptians must also have related to agriculture. For it must have been the need for knowledge of when the inundation would begin, together with the discovered inadequacy of the lunar calendar, that set the Egyptian mind at work upon the problem. With a solar calendar, the dates by which the canals leading to the impounding reservoirs must be ready; when the inundation would begin and when it would subside; when cultivation might start, how long it would last, and when the crop would be ready for harvesting—as well as the times when stone could safely be floated on barges to its

destination—all would be definitely known by calendar dates that would be uniform from year to year.

But the great antiquity of Egyptian civilization does not depend for proof on more or less conjectural evidences. In the Nile valley, brick and pottery fragments have been recovered from a depth of ninety feet. Since it has been determined from records covering centuries of observation that the Nile deposits four and one-half inches of silt in a hundred years, a simple calculation shows that, over 20,000 years ago, the Egyptians were already sufficiently civilized to make brick and pottery. Inasmuch as one of the earliest uses of pottery was to store grain —if, indeed, it was not from the drying out of pits with fire in order to store grain where moisture would not spoil it that the art of pottery-making developed—the connection with that factor of such tremendous influence in the history of man, agriculture, is again apparent.

In all the long time prior to the formation of the First Union, the Egyptians seem to have lived psychologically in the Age of Magic. Out of a profound sense of their dependence upon agriculture and the growing greenery of the earth, and of the part played in it by the waters of the Nile, Osiris-worship evolved and spread among the commoners. Osiris had several aspects. Sometimes he was the Verdure-god, giving life to the green things of the earth and so to man and beast. Sometimes he was the River-god, the water itself, rejuvenating all life. At other times, he was vaguely both. But especially as the Verdure-god he was ruler of the Underworld, a place to which life retreated when the vegetation died down, to rise again to life *on earth* each spring. As it was with vegetation, so was it imagined to be with man. He, dying, also passed into the Underworld, to rise again to life *on earth*. And when the crops were harvested and the grain-stalks cut, it was the god himself being slain that man might live, to rise again with the sprouting of the seed-grain, saved and sown in the fields to bring forth their bounty in due season.

As the practice of agriculture by irrigation occupied almost the whole of man's days, so did Osiris-worship dominate the

whole life of the people. Many myths of the holy trinity (Osiris, his sister-wife, Isis, and their infant son, Horus) arose and became current, preserved and commemorated in great popular festivals and ceremonies. In enactments of the Osirian drama, the devout witnessed the first Passion Play.

But another prominent feature of the Egyptian scene gave rise to another faith: the worship of the Sun-god, Re. This faith was confined to the higher orders of society and came to center upon the Pharaoh as the Sun-god's earthly representative. For, as only one sun ruled the heavens, so did only one Pharaoh rule Egypt, from the cataracts of the Nile to its mouths in the Delta. (The term, Pharaoh, meaning "great house," is a circumlocution adopted to avoid uttering the personal name of the deified monarch, a practice later followed by the Hebrews, who used the term, Jahveh, as a similar circumlocution.)

As Egypt grew into a great nation of several million souls, it presented to the eyes of men a spectacle such as had never before been seen on earth. They had created it, but the wonder and majesty of its ordered life overwhelmed their unaccustomed minds. Trying to account for it, the thinkers, the philosophers and wise men of those days, began to see in it a reflection of an imagined order in the fancied celestial realm of the Sun-god himself, the giver of life whom they commenced to refer to as a king, having no other adequate comparison to make. The grand, all-inclusive power of the Pharaoh, extending over the life of every person in the realm; his minute knowledge of all its affairs, reported to him by his officers and agents from every corner of the kingdom so that he seemed to have an all-seeing eye; his stern administration of justice without respect to persons as he guarded the welfare of his subjects, even the lowliest of them—these qualities, too, were assimilated to the Sun-god. In this manner, there gradually developed a concept of a celestial realm of bliss ruled by a king who was both omnipotent and omniscient, and yet who was benevolently disposed toward all men.

The grandeur, the beauty, the majesty and power of the nation under the Pharaohs were thus seen as reflections of

conditions in the heavenly realm of the Sun-god, Re; but, actually, it was the life of the nation, the phenomenon of national life, of society on a national scale, that the concept itself reflected. And it seems certain that, had there been no social organism on a national scale, producing through its life a mighty civilization endowed with beauty, majesty, and power, no such concept would have formed in the human mind.

Thus there came into existence in ancient Egypt two ideas of an imagined hereafter. First, there was the faith of the commoners, crystallized in Osiris-worship as the Verdure-god. It came as a direct reflection of the dependence of the people upon agriculture through irrigation, and out of the basic faith of the Age of Magic. By the aid of the compound Verdure and River-god, or through irrigational agriculture, man had performed the impossible, forcing the arid, sun-baked soil to produce more abundantly than land blessed with a plentiful rainfall. Second, there was the faith of the upper classes, the reflective thinkers and the royal house, developing from worship of the Sun-god into a technically true religion, the first evolved by man anywhere on earth.

In the course of time, the two faiths were syncretized: they were made one despite their many conflicting tenets and their opposed derivations. By that syncretization, Osiris, the ruler of the Underworld, usurped the characteristics of the Sun-god, Re, and even his place as Osiris was lifted up to heaven. Thus the faith of the common people showed its power but yielded concessions to the royal faith by compromise.

It is this syncretized faith which has come down to us of today and forms the basis and most of the content of the religion of the Western World.

The Sun-god, Re, was originally the god of Egypt alone. Not until after Thutmose III had conquered the whole of the then known world (about 1500 B. C.) did the idea begin to dawn in the Egyptian mind that the same sun that shone on Egypt shone also on other lands. Then, from the perception of that natural fact, brought home to human reason by political conquest, the idea of monotheism was born. For monotheism came,

says Breasted, as religious imperialism resulting directly from the political imperialism which had preceded it. (Ref. 3).

Thus it was in Egypt that the reversal of the relative positions of man and gods first was made. From being over the gods, man came to live under them, and, finally, under but one. That one was the modified Sun-god who ruled both Heaven above and Hell beneath; who admitted to his celestial realm none but the worthy and just; who was omnipotent, omniscient, and benevolently inclined; and to the enjoyment of eternal bliss in whose heavenly Other World life in This World was but a preliminary period of probation. And these are the characteristics of all the great, the technically true, religions. Without them there can be at most only a system of philosophy or a code of ethics.

The attempt of Iknaton (Amenhotep IV, about 1375 B. C.) to stamp out the cruder beliefs of the commoners and force monotheism upon them was ineffective and disastrous. After his death the priesthood gained the upper hand throughout Egypt, even dictating national policy to the Pharaoh. Returning to magic, they cultivated and played upon the superstitions of the people, resorting to every conceivable art of priestcraft to fortify their power and perpetuate it. Then Egypt sank into a slow decline from which it never recovered. This decline had already begun when Moses was born.

The story of Moses opens with the Hebrews in Egypt, to which land of plenty they, a small, unimportant, practically unknown nomadic tribe, had gone for relief from famine. The Egyptians had promptly enslaved them as unwelcome intruders and put them to work, to earn their keep if nothing more. In Egypt—where, for the first time perhaps, they had plenty of food—they appear to have increased with a rapidity which seems to have caused the government no little uneasiness. The story as given in the first chapter of Exodus indicates that severe repressive measures were taken, without effect. It was while they were in force that Moses was born, and he is said to have been saved from death while yet an infant by the quick wit of his mother, who actually contrived to have herself made his wet-nurse when (as the story goes) he was taken by an Egyptian

princess and, through her, adopted into the royal house of Egypt.

The name, Moses, does not, of course, have any reference to the child's having been drawn from the water, or to bulrushes, or anything like that. It simply means (on the recognized authority of Breasted) "a child," or—preceded by the name of a god— that "(the god has given) a child," as instanced in such combinations as Thutmose, Ptahmose, etc. Moses probably had such a compound name but, through abbreviation "for short," the first part of it was lost. This probably happened in many a similar case, and the two-syllable name, Mosé (to which Greek usage adds an *s*), was doubtless as common in Egypt then as Jim or Bob is in our time.

Brief as the Biblical account of Moses' early life is, it furnishes some interesting data relative to his character.

First, if Moses was indeed put in the care of his own mother during his infancy, then we may be sure that while he was with her he was receiving a thorough grounding in Hebrew manners and customs, the Hebrew language of the time, and Hebrew tradition. As he grew older, he would have eaten from the same food bowl as his mother, and his stomach and palate must have acquired tastes and preferences never to be totally forgotten. He was made, in short, a Hebrew child. And he seems to have maintained a lively interest in the fate of that unhappy people on into manhood, an interest that was to cause an emotional outburst that led to his undoing.

Second, if he was indeed adopted into the royal house of Egypt, then there are real grounds for the tradition that he received an education in all the wisdom of the Egyptians. This, too, he was never completely to forget, and it had profound effects upon him in later years when he had cause to reflect upon it and upon the great civilization that had produced it.

Third, we learn that it was in a fit of righteous indignation against the cruelty of an Egyptian taskmaster that he committed murder, killing that officer and hiding the body in the sand. Here we see manifested in the early years of Moses' life that great capacity for noble indignation which he was to exhibit again and again. It was characteristic of him that he could not

stand aloof when injustice was done or cruelty perpetrated. Repeatedly, he proved it. And yet he is commonly known as the formulator of ferocious laws sanctioning injustice and cruelty! How little is he understood, even "unto this day"!

And now we may close our brief survey of the first period of Moses' life and the circumstances back of and surrounding it, merely noting that he had killed an Egyptian officer who was performing his duty, however over-zealously, and that there was now no safety for Moses except in flight. For—despite Moses' stern warning to keep silent—the slave whom he had rescued had blabbed the secret of the body hidden in the sand. And, as Milman points out, Moses' crime was not only murder; it was also insurrection.

Moses quickly sensed his peril, and even before the news could have reached Egyptian ears he was probably already in flight, perhaps in disguise and with some likely tale prepared to account for his sudden appearance and continued presence among the nomadic tribesmen with whom he expected to take refuge. From the land of Goshen in Lower Egypt he fled east and south, into the Wilderness of Paran, where, along the Gulf of Akaba, lived the Midianites.

It must have been a terrible journey clear across the Wilderness for a solitary traveler totally unused to life in the wilds. Alas! The narrative passes over it in silence, and only Moses' return in later years to those terrifying scenes, so utterly different from the level, well-tamed land of Egypt, is reminiscent of the profound impression the experiences of that journey must have made upon him.

PART II

CHAPTER III

MOSES IN THE WILDERNESS

The second period of Moses' life which now began is almost as briefly treated in the Biblical account as the first. More details are given but they are so inadequate that some attempt to fill them out must be made. For it was (to repeat) in this second period that the Moses who was the great Lawgiver of the Hebrews was born.

At the commencement of this part of his life, Moses was a hunted fugitive, a murderer in hiding, a man sunk in obscurity and hopeful that it would continue. At its end, he emerged of his own accord and immediately assumed one of the greatest roles in history, performing an experiment which—in kind, in scale, and in purpose—is unparalleled.

How can we account for so great a transformation? Something vital indeed must have occurred between the beginning and the end of this part of Moses' life to work it. What was it? Perhaps, by gathering clues here and there and piecing them together, we may be able to solve this problem on purely rational grounds. But, in order to do so, we must enter into the very mind of Moses and see it at work. Can we do it?

This second part of the story opens in Exodus 2, verse 15, with Moses resting near a well in the land of Midian. Then occurs an incident which again shows how powerfully Moses could be moved by the noble sentiment of righteous indignation.

To the well at the close of day come shepherds to water their flocks, taking their turns in order of arrival. Presently—among others—there comes a small flock driven by some women. The

men, seeing only women in charge, deny them their proper turn at the water, bidding them stand aside and wait until they, the men, have finished. This is too much for Moses. As he had done in Egypt, so did he now. He interfered, and in the name of justice. Striding forward, a vigorous young man, tall from the generous food of Egypt, well set up and powerful of build, already lean and hard from his struggle across the whole breadth of the Wilderness, his clothes stained with sweat, muddied, and rent here and there by the tangled growth through which he had forced his way, he must have been a rough-looking individual, one dangerous to oppose. Yet there was about him an air of authority, as of one accustomed to being obeyed, and quickly. Before his swift and biting denunciation the men quailed; and, at his insistence, the women advanced with their flock, watered it, and departed. Then Moses returned to his seat, his sense of justice satisfied.

Now, these women were daughters of Reuel, or Jethro, a priest of the Midianites. And when Jethro heard their story, he sent one of them back to fetch the stranger. Zipporah, accordingly, went and brought Moses to her father's tents. Eating and talking together, Jethro must have been favorably impressed with the young man, for we find that he was taken into Jethro's service and married the daughter, Zipporah.

We also find that Moses must have become a skillful and throughly competent shepherd, for he was put in charge of Jethro's flocks. And that is about all we are told of Moses before he began to "talk with God" there in the Wilderness. Yet there must have been much of great importance to the understanding of Moses that we are not told. We can only patch it together as best we can, and there is much that can be put together with profit.

Consider, then, the situation in which Moses found himself after his flight from Egypt. He who had lived on a high social plane in all the pomp and circumstance of the mightiest, the most stupendous civilization on earth, even as one of its royal household, was now reduced at a single stroke to the lowly, precarious life of the nomads. Accustomed to the level, cultivated

land of the Delta, he now wandered among the upheaved mountains and torn, wild gorges of a tortured, savage, volcanic region. Now, for the first time, he felt the exaltation of the hills and heard the voice of falling water. How great a contrast in sheer physical surroundings, and what an impression it must have made upon him!

Then, too, there was forced upon him a radical change in diet. The Egyptians were largely vegetarians, living principally upon a wide variety of cereal products, fruits, and vegetables. But the food of the nomads consisted almost entirely of milk and milk products, eked out with such wild fruits, nuts, and bulbs as were to be gathered in their seasons. Occasionally there was a feast of meat, when all gorged themselves to their utmost capacity until the bones of the slaughtered animals were picked clean and the feasters could hold no more.

The change from one diet to the other was for Moses sudden and complete, but it was not easily made. His stomach rebelled against it. The burnt smell of carcasses roasting over the beds of coals almost nauseated him, and only the pangs of hunger made it possible for him to eat at all. But, in a surprisingly short time, he found himself growing accustomed to the regimen, even liking it. Soon he was cutting off a chunk of meat and gnawing at it with the best of them. And, to his astonishment, he found himself in vigorous health and increasingly able to undergo hardship, including long abstinence from food, especially after having eaten heavily of meat. Strong and virile he had thought himself, but now his muscles grew hard as iron from the vigorous, outdoor life and the sustaining food, no longer monotonously the same but satisfying in every way.

From the nomads he learned the art of butchering, the choice cuts, and that one must eat the organs, the fat, and the marrow. From them, too, he learned the shepherd's and the herdsman's skills. Ere long, he was capable enough to be given charge of Jethro's flocks, leading them from pasturage to pasturage as one area was cropped clean and another had to be sought, higher on the hills in spring and summer, lower down where the

streamlets flowed as winter approached and only the dales and valleys stayed green.

Is it not a curious thing and significent that Moses, entering upon his new life, was thrown into close contact with domestic animals? From them, like Darwin in later times, he was to learn much.

Now, as herdsman and shepherd, Moses' principal business outside of lambing time was to see that his charges were well provided with sustenance and to protect them from the ravages of the wild carnivores that, but for the watchful care of man and dog, would soon exterminate them. For there were lions in Asia then, and leopards and eagles, and lesser predators which, though comparatively small, could do a lot of damage. Often had Moses seen them. Some he must himself have killed. Though their flesh was never eaten, the nomads carefully skinned them and tanned their pelts. How muscular the flayed bodies looked, and yet how thin from side to side, not like the round-bellied sheep and cattle! Out of sheer curiosity, Moses may have familiarized himself with their anatomy, so different in various ways from that of the herbivores he guarded from them. He found much to interest him.

At first, in the early years of his new life, Moses had little time for reflection. He was too occupied with the demands it made upon him, for he had everything to learn and need to learn it quickly. But, as he acquired proficiency, he began to have more leisure. He was an apt pupil, keenly observant and understanding. And, ere long, there were intervals when time hung heavy on his hands, long hours when he had nothing to do but sit and watch while the flocks grazed and browsed hither and yon, his faithful, wolflike dog heading strays back to safety at his command. In these times of bodily idleness, Moses let his thoughts drift where they would. And of their own initiative they began to center, to coagulate. Questions arose, and Moses began to seek the answers. Yet, for a long time, it was all inconsequential, aimless and unfruitful.

By this time, Moses had adopted the life of the nomads

completely. The past—his life in Egypt—he had put resolutely behind him. Now he was one with the wanderers, no more a Hebrew. And the proof of it is the fact that although his wife, Zipporah, bore him two sons, Gershom and Eliezer, neither of them was circumcised. By this neglect, Moses proved himself a renegade in Hebrew eyes. For the Hebrews had adopted this ancient Egyptian custom and made it their own. And when Moses disregarded it, it was a sign that he expected never to return to Hebrew life.

There is reason to believe that Moses, by skill and diligence, became his own master before much time had passed, the owner of his own flocks and herds. And the possibility exists that he wandered widely, even, perhaps, over toward Babylonia. All the while, he was noting this and that, evaluating, comparing. For he had a quick and powerful mind and nothing was beneath his notice.

In his youth in Egypt, he had been keenly interested in the tricks of the magicians, had insisted on receiving instruction from them, including their more serious and sometimes dangerous performances, and he had become quite an adept. This interest still continued, and from wandering magicians who now and then stopped at the camps he sometimes picked up something new to add to his stock of lore and his skill in magic. When he met an especially good one, Moses would take him to his tent for the night, and they would sit down together and discuss their mysteries as one expert to another.

As time passed, the character of Moses commenced slowly to undergo a change. In his youth a man of action, yielding to impulse without an instant's hesitation, he now gradually began to acquire the manner of one who, living in the wide perspectives of space but who for long hours has no companions, falls into reveries and habits of silence, his brooding gaze fixed on far horizons.

So Moses began at last to think, to excogitate where before he had merely cogitated. Slowly his thoughts began to follow a definite course. From observation and long reflection, there was

born in him an Idea. And from that Idea the Moses of history in turn was born.

We cannot understand Moses unless we know what that Idea was.

The bones of it, as it were, its merest skeleton, have come down to us in a series of allegories which Moses must have composed and perfected in set form so as to preserve for future generations the conclusions at which he had finally arrived.

In casting the fruits of his reflections into allegorical form, Moses was not only yielding to the Oriental custom of embodying lessons in stories; he was also giving them the best chance of survival. His great Idea was new and novel then as it is new and novel today; it ran counter to popular concepts then as it does now; its revelation had elements of danger as it still has them, so easily can it be perverted into its opposite; and to tell it plainly might not only do great harm but would, most certainly, assure its rejection and even condemnation, and perhaps endanger the life of its propounder.

Moses had no fear of death, but he had come to feel that, out of his unique experience and his accumulated thought, had come something that men needed and would some day desire, if they did not want it now. For that future time—whenever it should come—the Idea must be preserved. He dared not speak openly, but if his concepts were embodied in an allegory or, better yet, a series of them, they would be (as Aristotle said to Alexander) both "published and not published."

For the generality of men, they would be just stories. But those who had eyes to see and who were capable of it would find in them jewels of truth. The very faults such critical thinkers would see at once would awaken suspicion, fix the attention, and identify them for what they really were—allegories.

Moses could not foresee that even with these warning faults his allegories would be taken literally by later ages as Gospel Truth, even as Divine Revelation. Yet that has been their fate. And now, when more of the world is ready for Moses' truths than ever before and when, though the danger of perversion still exists, the human need for them is great and pressing enough

to outweigh that risk, they who have found those truths may still marvel at the destiny which has kept them "not published" until this more auspicious time. For the crowning masterpiece of Mosaic allegory, the story of the tower of Babel, almost cries its truth aloud. Yet millions have read that story without realizing what it so plainly says.

The story of the tower of Babel is preceded by two others, the story of Noah's ark (which many now admit must be an allegory) and the story of Cain and Abel (sometimes treated as an allegory but interpreted in a way that involves so many contradictions and inconsistencies as to be inadmissible).

We shall first consider this series of allegories and then attempt to find what lies behind them in the story of Moses. For the allegories are, to repeat, only the bare bones of it, lacking the full beauty of the grand Idea they once supported and can support again.

CHAPTER IV

THE STORY OF NOAH'S ARK

The story of Noah's ark begins in the sixth chapter of Genesis, fills the seventh and eighth chapters, and ends with the covenant of the rainbow in the ninth. It is thus quite lengthy. But it is not necessary here to quote it *in extenso,* for only some of the details concern us. It will suffice to review it as the examination of it proceeds.

First there is the story of the flood itself, which is now held to be of Babylonian origin. It has been suggested that it is commemorative of a great flood that submerged Mesopotamia, perhaps at the time of the last retreat of the glacial ice-cap at the end of the Wurm period of glaciation in the Upper Pleistocene, somewhere around 40,000 years ago. This Babylonian legend in the Mosaic Books, together with the adoption of the Babylonian seven-day week and some other details, would seem to indicate that, if Moses did not actually visit Mesopotamia, he was at least conversant with Babylonian tradition as it circulated among the various peoples, and with Babylonian manners and customs. All this he might have learned, not only from his Egyptian teachers but also from wandering travelers—from traders and others—who would tell of the marvels they had seen and heard. Moses would listen attentively and remember the oft-told tales, storing them in his capacious memory.

The fashion of the ark—its materials, its length, breadth, and general design—is given in Genesis, chapter 6, verses 14 to 16. Built of gopher wood, it was to be 300 cubits long, 50 cubits wide, and 30 cubits high. It was to have three stories, with rooms and a window, and it was to be covered with pitch inside and out. Into it were to go Noah and his wife, their three sons with their wives, and two—male and female—of "every living thing

of all flesh," beast, bird, and reptile. So says the story in chapter 6. But in chapter 7, the Lord said: "Of every clean beast thou shalt take to thee by sevens, the male and his female: and of beasts that are not clean by two, the male an his female. Of fowls also of the air by sevens, the male and his female; to keep seed alive upon the face of all the earth."

For forty days and forty nights it rained, and all the earth was submerged by the flood, and all animal life was destroyed, drowned in the waste of waters, save only the family of Noah and those that were with him in the ark. For "the waters prevailed upon the earth a hundred and fifty days." Then the winds blew, the rains stopped, and the water began to "abate," till the ark grounded on Mt. Ararat.

For forty days thereafter, Noah waited. Then he sent forth a raven—and saw it no more. And he sent forth a dove also, and it, unable to alight anywhere because of the water, returned to the ark. Seven days later, Noah tried again. The dove went forth once more, and this time it came back with an olive leaf in its beak. Then Noah knew that the waters were gone. But he cautiously waited a week longer, and when he sent forth the dove it did not return. The ground was dry and, at God's command, Noah and his family and all the animal life that had been with him in the ark went forth from it, to be fruitful and multiply upon the earth.

Now, allowing for the numerical discrepancy of seven against two as being due to two versions having become mingled, it is still impossible to take this story literally. For even if there were only two of each kind, how could Noah collect them all in one place and hold them together in peace so that they might enter the ark in company? How could he pack so many into so small a space? And even if, miraculously, he could do both, how could he keep them all alive for so long a time? What would the reptiles eat? On what would the birds and the herbivores feed? What would the carnivores devour?

Of course, an omnipotent God could bring them all to the ark and so alter their natures temporarily that peace would

prevail. Or he could cause them to fall into a coma or trance, to hibernate or estivate, and so require no food. And he could shrink them down in size so that even the 300-cubit ark could hold them all and still leave room for more. But to ask this skeptical age to believe that is to require of it greater credulity than it usually has. So we must either take the story as entirely fanciful or see it as an allegory.

The story of the ark has been read as an allegory teaching that when a world is formed it contains within itself the seed of all that will subsequently appear in it. But it is more than just that.

Though this story is of Babylonian origin, the Babylonian version as we know it contains elements that do not appear in the Mosaic narrative: e. g., the swallow, which Moses does not mention. If Moses used the Babylonian tale, he seems to have altered it to suit his own purpose. And his purpose seems to have been to record his discovery of a basic biological and evolutionary truth: that, in the history of the evolution of life here on the earth, the vegetable kingdom came first, before the animal kingdom could exist. For not until there was proof that the vegetable kingdom was established did animal life issue from the ark. And Moses seems to have believed that vegetation had to have reached an advanced stage of development before animal life could exist and thrive. For the sign he makes Noah await is the leaf of a *tree*.

Moses appears to have had the same mistaken belief that most of us have had, the quite natural belief that trees, the so-called monarchs of the vegetable world, are not only its tallest, sturdiest, longest-lived members but also its evolutionary ultimates. Modern botany, however, holds the composites (which are rarely arborescent) to be the most evolutionarily advanced forms of vegetable life. Trees are known to have occurred in very ancient times, and in primitive orders, before the composites were evolved. But Moses did not know modern botany, and the significance of the dove returning to the ark with a tree-leaf in its beak is that it indicates Moses' belief that only after vegetable

life had thoroughly established itself on earth, even to its ultimate stage, did animal life appear. For all the forms that were in the ark, kept there until Noah released them, were animal life forms.

Moreover, since the humans in the ark—Noah and his wife and their sons with their wives—were in charge and responsible for the safety of ship and cargo, they would be the last to leave it. Only when they were sure that all the livestock had departed would they themselves go forth, leaving the empty ark to its fate. They were thus the last to issue from the ark.

Thus, perhaps, does Moses, in the story of Noah's ark, proclaim himself an evolutionist aware of the chronological order of the appearance of the vegetable and the animal kingdoms, with man the last of all to emerge.

Why that had to be the order of precedence, and how Moses became aware of it, will be discussed later.

CHAPTER V

THE TALE OF CAIN AND ABEL

The story of Cain and Abel occurs in the fourth chapter of Genesis, verses 1 to 16, inclusive.

After Adam and Eve had been expelled from the garden of Eden, two sons were born to them, Cain (whose name means possession) being the elder and Abel (meaning vanity) the younger. (The meaning of the names and the order of birth are significant: they must not be overlooked.)

Cain was a "tiller of the ground," while Abel was a herdsman, "a keeper of sheep." And we are told that "in the process of time" Cain made an offering to the Lord of the fruits of the ground. And Abel, too, made an offering, sacrificing "firstlings of his flock and of the fat thereof." But the Lord "had respect" to Abel and his offering whereas to Cain and his offering he "had not respect." This so incensed Cain that God censured him severely for it. But Cain was not to be mollified, and when he met Abel "in the field," he slew him. Whereupon the Lord put a curse on Cain, saying: "When thou tillest the ground, it shall not henceforth yield unto thee her strength; a fugitive and a vagabond shalt thou be in the earth."

Against the harshness of this sentence Cain cried out to the Lord, saying it was more than he could bear, and voicing his fear that, wandering as a fugitive and a vagabond, "everyone that findeth me shall slay me." But God promised that a sevenfold vengeance would be taken on "whosoever slayeth Cain." And the Lord set a mark on Cain, "lest anyone finding him should kill him." And Cain went away and "dwelt in the land of Nod, on the east of Eden," the name, Nod, meaning flight or wandering.

This story has been read as an allegory depicting the struggle

for possession of the land between the sedentary agriculturist, represented by Cain, and the wandering, nomadic herdsman, personified in Abel. Cain is taken as the progenitor of the builders of cities and so of nations and civilization.

This interpretation has been favorably received by many. But a number of difficulties render it highly questionable. For it is Cain who was to be a fugitive and a vagabond forever. How could he, then, be a builder of cities? And none seems to have threatened the life of the city-builder, wherefore the Lord's promise of vengeance was mere empty words and he, as being omniscient, ought to have known it. There are other inconsistencies but these ought to be enough to condemn the city-man-versus-nomad interpretation. It seems to derive its authority chiefly from verse 17, which is probably not part of the original story at all but an addition tacked on so that a genealogy might follow. In the succeeding chapter (chapter five), no mention is made of Cain and Abel; by the genealogy there given, Seth might well have been Adam's only son. Indeed, the account becomes quite confused, especially as to Enoch, Lamech, and Seth, unless different persons bear the same name. (Ref. 4) Evidently, the "writings" have here become jumbled and the allegory misplaced.

The solution here preferred is to take Cain and Abel as figures in an allegory which ends with verse 16, chapter 4. Then the contradiction of the incurable vagrant turning sedentary and founding a city is avoided and a more consistent and reasonable interpretation can be made.

We know that Moses had become familiar with both the agricultural mode of life and that of the nomadic herdsmen. The tremendous shock he had experienced when he plummeted from a high estate in a great civiilzation raised on the sure foundation of agriculture by irrigation to the precarious and relatively crude existence of the nomadic herdsmen must soon have forced comparisons on his powerful, attentive mind. Pondering upon the differences in the two modes of life and the why of those differences, Moses came to certain conclusions. These he embod-

ied in a slowly composed, often revised, gradually perfected, and finally formalized series of allegories, among which is the tale of Cain and Abel. It is packed with the hardwon wisdom of Moses, part of a concentrated answer to his struggle with the problem of "the meaning of things," his wrestlings with reasons. And it reflects his life as a shepherd, the guardian of herbivorous animals from their proud and predatory enemies, the carnivores. It belongs after the story of the ark, not before it.

Who was Cain, the first to live on the fruits of the ground? Surely, he represents the herbivorous order of animals, those that crop the vegetation with their teeth and manure it with their droppings. They were the first to live the vegetarian mode of life, and all that came after them in time found them already in possession as dominators of the earth. They had, and they exemplified, possession; and Moses called them Cain, meaning possession. They came first: in the great orders of animal life, they were the first-born of Adam's red blood of life.

Later came the carnivores, represented by Adam's younger son, who asserted dominion over the flocks, owning them by the predator's proud, vainglorious right of might.

But the earliest carnivores struck fear into the herbivores, which (meeting them "in the field") turned upon them and killed them, for they were not yet powerful or numerous. Nevertheless, others would appear and establish dominion for these proud takers of life. Yet it was not at once that these substitutes would emerge, and so there was a hiatus, a time when there were none. That was what angered the Lord, for he had called forth carnivorous life, and now it was destroyed.

Moses knew right well that meat is a perfect food for man. He knew that man, so spare of flank and small of belly, with eyes set side by side in one focal plane as the eyes of all true carnivores are, resembled the carnivores in physique more than the herbivores. And from these signs (as well as for other reasons) Moses conceived that man must have emerged from the ranks of the carnivores. Therefore, in the eyes of God (who was building up to man), the carnivores were more precious

than the herbivores. For it was the carnivores and not the herbivores that gave direct promise of man.

So although Cain must have sacrificed to God the fruits of the ground long before Abel was born (by consecrating them to their right use as food, truly a consecration); and although that offering must then have been looked upon with favor, it was more pleasing to the Lord when the carnivores emerged from the womb of time and began to make their sacrifice (by consecrating members of the flocks to the same right use). Hence God now "had respect" to Abel's offering and heeded Cain's no longer.

In punishment for Cain's disruption of his developing plans, God put a curse on Cain. No more was the ground to yield its strength to the herbivores, and it is not they but another form of life—man—that has developed that strength by agriculture and flourished upon it. A fugitive and a vagabond was Cain to be—and all over the world the wandering herbivores live in fear as the thundering herds flee from danger in wild panic. For Cain was not one but many, whom everyone that found him might kill.

But the Lord set a mark on Cain and promised a sevenfold vengeance on all that slew him. That mark is the horned or antlered head. And the vengeance has indeed been wreaked on all Cain's plural slayers. For the great carnivores have almost disappeared from the earth, annihilated everywhere except in those restricted areas which man has had to establish to preserve them from total extinction. The slayers, slowly superseded by man, the greatest carnivore of all, and so no longer needed, have been more greatly slain than their prey, a sevenfold vengeance indeed!

Thus we have in the tale of Cain and Abel an allegory in which Moses, supplementing the allegory of Noah's ark, affirms his conviction that, while the animal kingdom came after the vegetable (as told in the story of Noah's ark), the first division of the animal kingdom to appear was that of the herbivores,

the carnivorous order coming later. Also, that man is (in Moses' estimation) of carnivorous descent.

The mind of Moses was not, however, content to rest with these discoveries. It was to carry him on to wrestling with the problem of mankind. The outcome of that wrestling he put into another allegory, the story of the tower of Babel.

CHAPTER VI

THE TOWER OF BABEL STORY

While it is true that, as an allegory, the tower of Babel story almost cries its truth aloud, it remains a fact that literally millions have known that story familiarly from childhood days without ever realizing that it is an allegory, and so without understanding it. The generally accepted idea of it is that it is history recording the beginning of diversity of language and the differentiation of peoples. So literally has it been taken as history that archaeological explorers have actually sought the tower's ruins, and have occasionally reported indications of success. But, while the remains of some structure to which the legend has attached itself may be uncovered, nothing more is to be expected. For the story is not history but allegory. And—once seen—its meaning is so clear that the only mystery is how it can have been misunderstood by so many for so long a time.

A probable explanation is that theology has either failed to perceive or has deliberately refused to grant recognition to the double portrait of God found in the Mosaic Books. For Moses' Janus-like delineation is repugnant to basic religious dogma. Nevertheless, it is imperative to grasp the full significance of that delineation if one would correctly understand the tower of Babel story and, through it, Moses himself. We will therefore discuss it at some length. Few seem to realize that, in the Mosaic account, God is shown in two antithetical roles, yet this fact is the key to not only this story but to much else.

In the opening chapters of Genesis, the first of the Mosaic Books, the Mosaic cosmogony is given. There, God is pictured as the great Creator, creating the world and all that in it is. For six days (evolutionary eras?) the work of creation continued. Each "day," God looked upon his handiwork and

found it good. That is to say, he was gratified with what he had done. In the course of the sixth day, towards its close, God created man "in his own image," and gave him "dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. * * * And God saw everything that he had made, and, behold, it was very good. And the evening and the morning were the sixth day." (Ref. 5) Then, in chapter 2, verse 2, we read: "And on the seventh day God ended his work which he had made." And God blessed the seventh day and sanctified it. As to why he is represented as sanctifying it there will be more to say later on, but it is in chapter 2 that we learn of the garden of Eden, with its two most wondrous trees, and of Adam and Eve. Then, in chapter 3, comes the tale of the fall of man, the curse put upon him, and his expulsion from the garden.

Now, the general understanding of the story is that Adam was expelled from the garden because he disobeyed God's strict command when he ate of the fruit of the forbidden tree of the knowledge of good and evil. But this does not seem to be altogether correct. In fact, it appears to be quite wrong. If we read the story attentively, we shall find that Adam was expelled less in punishment for what he had done than for fear of what he still might do.

In chapter 2, verse 9, we are told that the Lord made to grow out of the ground "every tree that is pleasant to the sight, and good for food; the tree of life also in the midst of the garden, and the tree of knowledge of good and evil." Just pausing to note that the Egyptians also had their tree of life, it is to be observed that this intimation of the existence of the two trees serves the reader as an aid to the understanding of what follows. And from what follows, it is clear that, at least in God's eyes, these two trees were the most precious of all the trees in the garden, their fruit being extremely desirable because of the magical properties it had of conveying special powers, each according to its kind: knowledge of good and evil, and eternal life.

When we read of Adam and God's instructions to him, we learn that he is made free of all the fruits of the garden with the single exception of the fruit of the tree of the knowledge of good and evil. On the fruit of that tree a ban is placed: Adam must not eat it on pain of death. But nothing whatever is said about the tree of eternal life. God keeps secret from Adam even the fact of its existence, making no mention of it. And when Adam is expelled from the garden, along with Eve, he is still completely ignorant of it.

Adam and Eve, persuaded by the serpent, disobey God's command. They eat fruit from the tree of the knowledge of good and evil. But they do not die. The serpent's assurances that they will not die if they eat the fruit prove truer than the threats of God, which turn out to be exaggerated.

There is, of course, a theological explanation of this: "they died unto innocence." Whether or not it is a good thing that they did is debatable, but it does not concern us now. What does concern us is that God, from being the great Creator, finding his work good and taking pleasure in it, including his creature, man, now begins to appear in a different aspect, for his benevolence—his goodwill toward man—is seen to have its limits. He is shown as withholding from man what he deems the most precious things in all that garden, and his limited goodwill toward man causes him to deceive man about one of those two trees and to resort to determined action with reference to the other.

When the Lord discovers that Adam has disobeyed his command and eaten of the fruit of the tree of the knowledge of good and evil, he is aghast, he is dismayed . . . and he is fearful. He acts at once, and vigorously.

We read in chapter 3, verses 22 through 24: "And the Lord said, Behold, the man is become as one of us, to know good and evil: and now, lest he put forth his hand, and take also of the tree of life, and eat, and live for ever: Therefore the Lord God sent him forth from the garden of Eden, to till the ground from whence he was taken. So he drove out the man; and he placed

at the east of the garden of Eden Cherubims (sic), and a flaming sword which turned every way, to keep the way of the tree of life."

Having come to know good and evil, man had become "as one of us" but not yet quite "one of us," or (as it appears) one of a plurality of gods, dominated, no doubt, by the Lord God. To become "one of us," man must have eternal life. And the Lord God was determined that man should not have it, for that would entitle him to enter the realm of the gods, or Heaven. It was to prevent this, and not merely to punish him for disobedience, that man was expelled from Eden. This is clearly shown in the excerpt from chapter 3 quoted above, with its "therefore" and its statement of the why of the Cherubs and the flaming sword: "to keep the way of the tree of life."

Here, then, in the garden of Eden story, we see God in his other aspect: that of defender of Heaven against man's efforts to gain it. And, from there on, he is the jealous God of the Mosaic tradition, not leading man to Heaven but keeping him out of it.

It is in this second role that God appears in the tower of Babel story. That story is found in the first nine verses of chapter 11, where it is followed abruptly by a genealogy, indicative, perhaps, of its interpolation. It is quoted here in full.

> 1. "And the whole earth was of one language and of one speech.
> 2. And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there.
> 3. And they said, one to another, Go to, let us make brick, and burn them thoroughly. And they had brick for stone, and slime had they for morter (sic.).
> 4. And they said, Go to, let us build us a city and a tower, whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth.

5. And the Lord came down to see the city and the tower, which the children of men builded.
6. And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do: and now nothing will be restrained from them, which they have imagined to do.
7. Go to, let us go down, and there confound their language, that they may not understand one another's speech.
8. And so the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city.
9. Therefore is the name of it called Babel; because the Lord did there confound the language of all the earth: and from thence did the Lord scatter them abroad upon the face of all the earth."

Shinar is now held to be the Babylonian plain just above the head of the Persian Gulf. It lies just west of the eastern end of Breasted's Fertile Crescent. So, when "they journeyed from the east," they emerged from a mountainous region and entered one favorable to if not requiring irrigational agriculture. This they must have employed, for they grew so numerous that they became ambitious to build a city and a tower "whose top may reach unto heaven." For they had plenty of labor, and "brick for stone," also slime for mortar. (The explanation, "brick for stone," has an Egyptian flavor, for it implies that stone is the only proper building material, which is just what an Egyptian would have thought—or a mind trained in Egyptian ways, as Moses' mind was.)

Looking down from Heaven, God grew apprehensive, and he came down to see what man was doing. What he saw would have pleased him greatly had he been the benevolent Creator, full of goodwill toward man and anxious for his improvement. But he was now the jealous God who defends Heaven against man's assaults upon it. Consequently, he was alarmed, and he took steps to foil man's ambitions and render his attempts ineffective.

This interference on God's part would not have been called

for, even from a jealous defender of Heaven, if what man planned to do had not held the promise of success. But God knew that it held every promise of success. And that was why he interfered: there was no other reason.

What, then, was it that rendered this attempt of man so likely to succeed?

It was the fact that "the whole earth was of one language, and of one speech." It was, as God said in verse 6, that "the people is one," for "they have all one language." And when that state of affairs existed and all set to work upon one great enterprise, they were able to work in harmony, and consequently so effectively that "nothing will be restrained from them, which they have imagined to do."

Numerous, united, working together in harmony, their minds set on one common task, they had only to imagine, and it was as good as done! Under those circumstances, it could not fail. And it was the certainty that, in such circumstances, they would not fail, that caused God to act to stultify their effort and that dictated the nature of his action.

He simply confounded their speech, so that they could not cooperate harmoniously because of diversity of language and the resultant inability to understand one another.

One speech and one language means, of course, one set of manners and customs, of traditions and ideology. Many languages means a diversity of manners and customs, ideals, and traditions. And in this allegory Moses emphasizes that it is lack of understanding, producing discord, that prevents man from "reaching unto heaven" and bringing it down to earth.

By pointing out the cause of failure, Moses shows what he believes to be the way—the only way—to success. If man can achieve one common language—not necessarily of the tongue but very necessarily of the heart and mind—then "nothing will be restrained" from him which he imagines (and dares) to do, even though it be attempting to bring Heaven to earth and so make real the Utopias of his dreams.

This is the true significance of the tower of Babel story. It

does not record a historical occurrence resulting in diversity of language. It does record Moses' conclusions on the cause of disunity among men and nations, and the only way in which Heaven can be brought to earth. He boldly asserts that universal, international harmony must be achieved, and that when it is achieved there will be no limit to what man can do in the way of realizing his fondest hopes.

Is it not a masterpiece of allegorical composition?

With it, the series of allegories here considered comes to an end.

CHAPTER VII

RECAPITULATION

The allegories which have been interpreted and restored to their proper order in the three preceding chapters form a related series setting forth the highlights of the Mosaic concept of biological and historical evolution as Moses had thought it out in the second period of his life, or that part of it which intervened between his flight from Egypt and his return thereto to liberate the Hebrews.

In the story of Noah's ark, Moses records his belief that when a world is formed it contains within itself the seed or germs of all that will come to be manifest therein. He further affirms his belief that life first appeared in vegetable form, and that animal life did not emerge until the vegetable kingdom was well advanced. Only then did the animal kingdom make its appearance. With the animal kingdom, but at its end, comes forth man.

In the story of Cain and Abel, Moses embodies his idea that, in the animal kingdom, the herbivores were antecedent to the carnivores. He also indicates that he considered man to be, by nature, carnivorous, and the rival of the other carnivores for dominion over the earth. For it is man who kills off his carnivorous competitors, thus wreaking God's sevenfold vengeance on all the killers of Cain.

In the tower of Babel story, Moses shows himself a student of history who has worked out a theory of the cause of war, and how to solve the problem of the elimination of that great evil. Only when the peoples of the world understand one another in their hearts and minds and work together in harmonious unity can the heavens of man's imagination be reached. For when "the people is one," all things are possible, and "noth-

ing will be restrained from them, which they have (even) imagined to do."

What has so far been said may serve to show the evolutionary characters of Moses' concepts. The allegories indicate, moreover, that Moses was not merely an evolutionist: he was—and before its time—an emergent evolutionist, and one who extended biology over into the field of history, where emergent evolution also operates. Modern science would not accept the Mosaic concept in all its details, but, in its broad outlines, it is valid today.

To credit Moses with having worked out such ideas so long ago is to make large claims, and, before acceptance of them can legitimately be asked, some further elucidation in support should be made. How was it possible for Moses to arrive at such ideas? On what grounds other than the rather free interpretation of the Mosaic allegories that has been given can such claims be based? And if Moses had such ideas, why did he not do more than bury them in allegories? These and similar questions may well be asked and, indeed, should be asked.

It may be answered in the first place that Moses did do more than bury his ideas in allegories. It was what he did that made him the mighty figure he became. But, as has been pointed out in Chapter II, the period of his life which made him famous was a period of fruitfulness which we know to have been preceded by two others, and it is rational to seek in those two earlier periods the origin of the forces which moved Moses and produced the third and final period.

Had it not been for the experiences of those two earlier periods, it is more doubtful if there would have been the third. The second would have had a commonplace, prosaic ending: Moses would have died the same obscure, unknown, and undistinguished nomad he had become—and expected, even hoped, to remain. But he did not so die, and the effort here is to try to discover why, seeking a rational answer to this problem.

Second, it may again be pointed out that the sudden and

violent change in social status and mode of life Moses experienced must most certainly have compelled him to think about food intensely, with direct, personal application to himself—not only about how to eat to keep himself alive from day to day but also about what he ate as he had the shift from a principally vegetarian diet to an almost exclusively carnivorous one forced upon him.

These changes in social status, mode of life, and diet, were neither gradual nor matters of choice. They were sudden, violent, complete, and forced changes. The inference that they caused profound thought upon that vital necessity, food, is unavoidable.

Third, nothing advanced herein as having been thought out by Moses can reasonably be considered beyond his mental capacity. We know that he must have had a powerful mind capable of giving attention to minute details yet able to encompass wide horizons. The Mosaic Law alone proves that. And if he had lived as a member of the Egyptian royal household, receiving an education in Egyptian wisdom, then Moses had been trained in a school which had produced all the necessities, all the refinements, and all the embellishments of a truly great civilization—and one which was founded upon and centered around agriculture, the production of food.

That civilization itself is ample proof of the power of the Egyptian mind. Not only did it invent the plow (as the Babylonians had invented a mechanical seeder); it invented a solar calendar. In plane geometry, it had closely approximated the value of *pi* some 1600 years before the Greeks. In solid geometry, it had worked out formulas not discovered in Europe until 3,000 years later. (Ref. 6)

While some of these feats may have occurred after Moses' time, to object that the Egyptian mind—and so that of Moses—was incapable of making simple observations and correlating them correctly is to go beyond reason: the burden of proof would be upon the objector, not *vice versa.* And it may be emphasized again that the facts and truths the perception of which

is herein attributed to Moses are all quite simple and open to anyone. No special training and no apparatus of any kind is necessary to their realization. Just to fix the attention upon them and give them persistent thought is enough. Moses had plenty of time and ample occasion for both.

In addition, a number of clues indicating that the mind of Moses actually did follow the line of thought atttributed to him in this book are to be found in the Biblical account. Considerable reliance is placed on them, and they are made use of in the chapters which follow.

CHAPTER VIII

MOSES AND THE BURNING BUSH

When Moses, in flight from Egypt, entered the wastes of the Wilderness, he was indeed a stranger in a strange land. Nothing did he know of how to maintain life in the wilds; he was almost as helpless as a babe. For him, the first lesson was not "the geography lesson" of world wars but the hard facts of practical economics.

The tangled brush might rip and tear his clothes as he forced his way through it, avoiding the well-worn tracks that led hither and yon, ever mindful of the hue and cry that would pursue him. He might, at nightfall, take shelter beneath some overhanging rock or in some tangled growth, innocent of all knowledge of how to build a fire to warm himself and dry his clothing. He might live awhile on what provisions he had hastily collected and brought with him. Thus, for a few days, he might "make do" in the way of keeping himself alive.

But, sooner or later, the gnawing pangs of hunger would bring home to him with increasing insistence that this was a matter of life and death. Food he must have, and soon. Such nomads as he might meet would help him there, but whom dared he trust? Surely, a price was on his head, and word of it would go out to all who trafficked with Egypt. He must get away, far from that fatal land. And so he held out alone as long as he could. But he realized as never before how vital to existence was that erstwhile taken-for-granted article, food. He survived, but the lesson was one he never would forget.

And when, as a shepherd, Moses guarded and cared for the flocks, leading them from pasturage to pasturage and protecting them from wild carnivores that otherwise would prey upon them, he soon perceived that what concerned him now, too, was

food. Food for the sheep—the green things of the earth; and food for man—the very sheep themselves and the cattle, together with their milk and milk products. But for his protecting care, they would be food for savage beasts; through his care, they sustained him and his fellows. Protected from death, they gave food to man. Food! Everything seemed related to it, to hinge upon it, to grow out of it, to base itself upon it. Food underlay all else. Food . . . the great, the primary necessity of all living things! Nothing that lived could exist without it.

A nomad among nomads, Moses now lived almost wholly on animal products. Back in Egypt, his food had been drawn mostly from the vegetable world: cereals, succulent leeks and onions, cucumbers, melons, and many more kinds. Why did the nomads eat meat and animal products and those others (the Babylonians, too) live on a diet so largely vegetarian? The two modes of life were as distinct and different as the foods that supported them. On the one hand, a teeming, busy population and a mighty civilization; on the other, the scattered nomads, here today and gone tomorrow, building nothing, leaving nothing, save some litter, dead ashes, and the bleached bones of slaughtered sheep and cattle. Why so different? What was the cause of it?

Often, as a youth, Moses had sat at the feet of the Egyptian sages, drinking in their wisdom. From them he learned of the stars: the pole-star of the time, the wandering planets, the signs of the zodiac, so like our own. How often now must he, watching his flocks by night while seated on the ground, have recalled those problems of life and death he had then so impersonally considered but which now he pondered deeply as one they closely touched! Many and many a night must he have sat hour after hour, rapt in thought.

Then, one day, there came to him (as it were) a revelation. He had stopped awhile, standing at ease while the sheep cropped the lush, green grass. A few feet in front of him a small bush stood, isolated and alone.

Now, there was nothing novel about bushes in that land.

More times than he could count, Moses had walked among them, pushing them carelessly aside to make way for his passage. Many times he had avoided their thickets, despising them as being almost useless to sheep. But now, as he gazed, he, for the first time in all his life, saw a bush for what it was: like himself, a living thing. Like him, it had life: it was alive. He could break its stem and kill it, or tear it up by the roots, and kill it. But only because it was alive could it be killed. Like him, like the sheep and cattle and all the animals, like the nomads, like the teeming hordes of Egypt and of Mesopotamia, it was alive! And, realizing that, he knew that never before had he truly seen a bush—or any other form of vegetable life. Now it was as if the fire of life that burned in the bush spoke to him aloud, saying: Here am I, the Mystery of mysteries, Life itself, here in this bush, growing out of the cold, damp, lifeless earth!

Then Moses sat himself down to contemplate this mystery. And at last, although he knew nothing of nitrogen-fixing bacteria or the chemical action of chlorophyll, Moses grasped the great, the fundamental truth that plants, and plants alone, have power to draw sustenance from the soil—or, as we say it today, to convert inorganic matter into organic. On this grand fact all the life of the world depended.

Moisture, sunlight, and the soil: that was the trinity of creation. Where those three were, plants could grow. Where plants could grow, herbivorous animals could live. Where herbivorous animals lived, carnivorous animals—including man—could and did exist. But where that trinity was not, nothing at all could live. That was why the sandy wastes east and west of Egypt were a lifeless, deserted land. Nowhere except at the oases was there anything green; and if no green, then nothing at all!

From now on, Moses' thoughts had direction and purpose. For he was thinking from a basic, fundamental fact. It was not easy. Often did his thoughts wander off on byways and side issues. But, after many days, he had it. And then he knew.

No more guesswork; no more thinking in circles. Starting with a basic fact behind which he could not go and saw no use

in trying to go, he built up his concept, his philosophy, his organized understanding.

So was the great Lawgiver of the Hebrews born.

So did a great mind begin to find itself at last.

CHAPTER IX

THE PYRAMID OF LIFE

What was it that Moses found, there in the wilderness? What was the discovery he made?

What he found was the pyramid of life, and what he discovered was that it has profound implications, being revelatory of Nature's own Scheme of Things, its very Plan of Life. Such a discovery is possible for anyone at any time who has eyes to see the pyramid and who, from the logic of it, reasons through to its principles, as Moses surely did.

The pyramid of life is one of those grand truths of Nature whose very simplicity, ubiquity, and naturalness obscure their grandeur. It has existed from time immemorial and it exists today. Always it has been, always it is, and always it will be: an omnipresent phenomenon of aquatic, terrestrial, and aerial life. Despite the multiplicity of forms in which it is embodied and the excrescences that have grown upon it, sometimes leading to confusion, every human being that ever lived must have been, to some degree, aware of it, vaguely but practically if not clearly as an intellectual perception.

In biological science, the pyramid of life is a commonplace truism, though that science seems content merely to note it and leave it. It is one of those self-evident truths whose statement elicits the reproving response: "Everybody knows that!" Yet all too few have perceived that it involves principles and that they are of inestimable value, for *they give meaning to the evolutionary process* as no other principles do.

In barest terms, the truth of the pyramid of life is that sheep and cattle eat grass and we eat them. Everybody knows that and there is nothing remarkable about it because, things being what they are, that is how it has to be. We can't eat grass but

sheep and cattle can, and so . . . ! Everywhere, that is the way things are.

But the very fact that things are that way because they just have to be that way ought to warn us that here is a truth it behooves us to understand. For it is evidently highly important to Nature if not to us. And if we subject it to thorough inspection, we shall probably find that it is highly important to us, too.

Doubtless it is because the pyramid of life is so ancient, so perpetually of the present, so ubiquitous, so obvious, and— in a word—so familiar all through our lives wherever we may be as to be taken for granted, that it has not been subjected to adequate study.

"Sheep and cattle eat grass and we eat them." That is, indeed, a truism: nobody will dispute it. But note that it specifies three different forms of life and indicates a direct relationship between them by twos. Those three forms are representative of three grand categories of living things. Its "grass" is of the vegetable kingdom; its "sheep and cattle" are herbivorous animals; and its "we" typifies the carnivorous order of animal life since it is in a carnivorous capacity that we eat meat.

For reasons not here pertinent (but see Chapter II), we have become omnivorous. Purely carnivorous animals, however, can eat animal food only, usually the flesh of herbivorous animals. Herbivorous animals can, by definition, eat only vegetable food. But what nourishes vegetation? Whence comes the wherewithal to maintain it alive?

It comes from the soil, from water, and from the air. By the photosynthetic power of chlorophyll (the chemical substance which makes them green), plants can transmute inorganic substance into organic. They manufacture their own food. And (except for such relatively insignificant forms as the sulphur and the iron bacteria) they are the only living things that can do that. All others consume food that has been given an organic character. Hence it follows that all other categories of life must derive their sustenance directly or indirectly from the

vegetable kingdom. Herbivorous animals derive it directly therefrom, and carnivorous animals indirectly, through the flesh of their prey.

By the source of their sustenance, then, three grand categories, ranks, strata, or levels of existence among the living are to be distinguished. First, as basic to all others, comes the vegetable kingdom; then the herbivorous order of animal life; and then, after the herbivores, the carnivorous order of animal life. The herbivores are thus once removed from the vegetable kingdom and the carnivores twice removed therefrom, for the herbivores stand between. The level of the herbivores is *superimposed* upon that of the vegetable kingdom, and the level of the carnivores is *superimposed* upon that of the herbivores.

Every superimposed level is thus superior to and (in Nature) higher than that on which it stands, and which is therefore its inferior in the evolutionary scheme of things. (It is to be emphasized that the basic stratum is not merely grass; it is the whole vegetable kingdom.)

Our inspection of the pyramid of life has hardly begun, yet we already have some very suggestive results. Thus, since nothing can derive sustenance from what does not exist, it is indicated that the three levels must have evolved chronologically in their respective order of superiority: vegetals, herbivores, carnivores. And, in the superimposition of level on level, we have Nature's answer to the problem in biology of what distinguishes "higher" from "lower," and what makes the difference: the why of it. For every higher level—higher by superimposition—draws its sustenance from that level upon which it stands. And, as the levels are, so are their members. Dietary causes make carnivorous animals higher in life's scale than herbivorous animals, and the same causes make herbivorous animals higher therein than plants. Biological science may not find this source-of-sustenance criterion satisfactory but Nature does, for that is the way things are.

Now, in the pyramid of life upon which Moses' attention was concentrated, all the herbivores and all the carnivores are

mammals, and they exist by the *multiple consumption* of members of their respective inferior or sustaining levels. This multiple consumption feature necessarily requires that the aggregate number of individuals composing any superior level in that pyramid shall be considerably less than the aggregate membership of its own inferior and sustaining level. (Plants, of course, have no inferior level in the pyramid. Their power of vegetative reproduction renders eaten plant parts countable as individuals for present purposes.)

Mutiple consumption is a principle of pyramidal construction. Because of it, there is always a *diminution of number* as life rises from lower levels to higher: from the vegetable kingdom level to the herbivorous animal level, and from that to the carnivorous animal level. (There must be a great many more vegetals than herbivores, and many more herbivores than carnivores.)

Should the sustenance demands of a superior level become extirpatingly excessive, restraints will operate until the excess is sufficently reduced. For each level depends, not only on the prior but also on the continued existence of its antecedent and sustaining level.

It is this ordered process of diminution of number that the term, the pyramid of life, epitomizes. Happily, it is a state of affairs which readily lends itself to diagrammatical representation, and the visual aid of a diagram should make it all quite clear. Unfortunately, however, precision is not possible and a generalized statement has to be made.

It is known that certain of the wild herbivores (deer) of North America, for example, consume an optimum of one kilo (2.2 pounds) of dry forage (half roughage, half concentrates) a day for each one hundred pounds of body weight. (Ref. 7) And it is the practice of zoological gardens to feed from eight to fifteen pounds of meat a day to their larger captive carnivores, depending on size. In India, wild tigers will normally consume at least the equivalent of one adult buffalo a week, and probably more. Major Corbett, author of MAN-EATERS OF KUMAON,

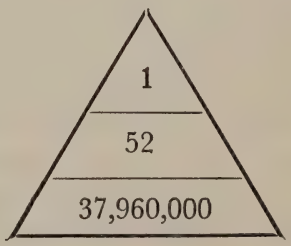
says a tiger "can eat a sambur (deer) in two days, and a buffalo in three, leaving possibly a small snack for the fourth day." (Page 142).

But we are here less concerned with weights than with numbers, and it is not possible to say how many wild forage plants of various kinds it takes to weigh a kilo when dried, for plant growing conditions and moisture content vary greatly with time, place, and species. Also, tigers do not confine their kills to herbivores of uniform size and weight. Arbitrary figures, therefore, have to be used, and they will suffice if they are anywhere near the truth since all that is now desired is to illustrate the principle of diminution of number. We will, accordingly, take an entirely supposititious case.

Let us conservatively assume that one carnivore of X (tiger) size will kill and eat one herbivore of Y (buffalo) size a week. Let us further assume that one such herbivore will eat 2,000 forage plants (predominantly herbaceous) a day, round numbers being used to simplify calculations. And, in order to avoid time element complications, let us put these consumption figures on a yearly basis.

Then we will have 1 carnivore, 52 herbivores, and 52 x 2,000 x 365 forage plants, or a total of 37,960,000 such plants. For 1 herbivore will eat 2,000 plants a day for 365 days, or 730,000 a year, and 52 of them will eat 52 times that figure, which gives an annual total for the group of 37,960,000.

Taking these figures and arranging them as Nature has arranged them, we have the following result if we enclose the figures within a geometrical diagram:



While the above figure is not a pyramid but a triangle (as one face of a pyramid would be), it serves present purposes. Actually, the figure should be a pyramid because, if all the life forms involved were brought to one place, areas would be involved which might be squares. If the squares were properly superimposed and spaced, their corners joined by lines, and the lines produced to intersection, an ideographic pyramidal figure would result.

The above figure represents but one year of the carnivore's life. If its life span were, say, ten years, then the number of herbivores and vegetals involved would be ten times as great although the number of carnivores involved would still be in the singular. It is also to be observed that only the individuals consumed are counted. The vegetals might put forth new growth sufficient to maintain the supply, but it might well require more than 52 herbivores to permit that number to be killed annually without so reducing their number as to make it insufficient. Where Nature's checks and balances are artificially disturbed, it sometimes happens that animals (herbivores especially) will eat themselves into starvation, as has been noticed as a likely condition with the mule deer of the American West. However, none of these contingencies affect the general truth, and the foregoing figures are not so grossly in error as to distort the fact they are intended to clarify by visual representation.

The meaning of the term, the pyramid of life, ought now to be clear to any reader who has not previously known it. As shown by the diagram (and on its supposititious basis), it requires 37,960,000 vegetals and 52 herbivores to maintain 1 carnivore alive in health and strength for 1 year. The comparative numerical membership of each stratum having the status of superiority over another diminishes in accordance with this principle as life rises from one level to another.

This, then, is the grand truth that Moses discovered in the Wilderness. It is simple and self-evident, once it is seen. And anyone can see it who is where "sheep and cattle eat grass and we eat them," as Moses was. These self-evident truths Moses

embodied in two of his allegories, the story of Noah's ark and the tale of Cain and Abel.

But Moses was not content merely to recognize the pyramid of life. He was determined to know why things had to be that way, to understand the significance of it—if it had any. So he studied the pyramid long and intently. And he finally arrived at a clear perception of some further principles governing or distinguishable in it, again as anyone can who will devote time and thought to the matter.

These further principles also become self-evident as soon as stated. But they are not immediately perceptible, and so they have to be worked out, even dug out. And one may wonder why biological science has not dug them out long ago; why more attention has not been given the pyramid than seems to be the case; why no exhaustive study of it appears to have been made.

When developing these further principles, one again has to state what everybody knows. Yet it has to be stated to give it the emphasis it is entitled to. Perhaps one might even complain with Lamarck: "Behold this state of affairs, so well known, which I am now compelled to demonstrate."

In stating these further principles and showing how they operate, no more attention will be paid to objections that can be raised against them than has previously been paid to those which can be advanced against statements about the pyramid of life. The objections—as well as the answers to them—will simply be ignored. For this is not a scientific treatise but a biographical interpretation. It is true that nothing has been said about omnivorous forms of life, or such perversions and inversions as parasites and carnivorous plants. Their existence is freely admitted; but that they invalidate or even seriously affect the general truth of the principles is not admitted: it is denied. Despite them, the pyramid of life eternally is. And it is as it is for the reasons given. He who would seriously contend otherwise must close his eyes and his mind to the most elementary kind of facts.

That Moses knew the further principles that will be developed

is beyond question. It is proved by his allegorical masterpiece, the tower of Babel story, and even more surely by those very deeds which made him the historic figure he became, as well as in other ways to which allusion will be made at the proper time and place in succeeding chapters.

CHAPTER X

THE LAW OF TERRITORIAL DOMINION

As Moses, dwelling in his thoughts upon the nature and the order of things, contemplated the pyramid of life in the scene around him, he could not but be impressed again and again with the importance to all living things of that vital necessity, food. In thus concentrating upon that fundamental, Moses was doing nothing extraordinary. Many a thinker before him had seen how basic to all life is food, as many a one who did not reason things out had yet had his "belly need" impressed upon him by the pangs of hunger. Far back in history, in the Fourth Millennium B. C., in that oldest of all the written records of the thoughts of men that have come down to us—the Egyptian sun-hymn known as the Memphite drama—its priestly author, says Breasted, "is unable to refrain from dwelling on the production of food whenever he touches the divine order . . ." (Ref.8) There is, then, nothing extraordinary in the fact that Moses—especially in his altered circumstances—should have seen the basic need of all living things for food.

But the extraordinary turn of Moses' thoughts concerning food was how he related it to the pyramid of life and its three grand orders or levels of existence. For, in relating food to those levels of existence, he did come at last to a clear perception of some further truths of that pyramid.

It was from another piece of shrubbery, another bush in which he saw burning unconsumingly the fire of life, that understanding of these further truths first came to Moses. It came, a crystallization of thought, as such moments come to those whose minds have pondered long and vainly, when what has been nebulous and vague suddenly assumes shape and substance, as, out of the perplexity of the seen, a resolving idea

emerges. Then the dark of bewilderment yields to the light of comprehension, and understanding rules.

Attracted to the bush by his recollection of that moment when, for the first time in all his life, he had seen a growing plant as an individual, like him a living thing, Moses drew near and touched it with his hands almost caressingly. Pushing its low-spreading branches aside, he peered beneath. Nothing grew there. Up to the perimeter of the bush, the grass was lush and green. But, underneath it, in the shade of its dense, leafy tent, no grass grew.

For the shrub had taken possession. Over a spot of ground, an area marked out by its bulky top, it had asserted dominion. And that dominion, that preemptive possession, it was maintaining and would maintain as long as it lived. Moses could cut it off just above its roots and throw it aside. Then it would die, and to that area the grass would return as though the bush had never been. For grass, too, asserted dominion, and it, too, asserted it by physical occupation. Only as it was able to assert—and to maintain—such territorial dominion could it exist. For—how plain it was now!—it was only by asserting and maintaining territorial dominion that a plant could, through its roots and leaves, secure that basic necessity, food!

As Moses stepped back from the bush that had told him this secret of life and looked around him at the trees and other kinds of vegetation, he saw that it was true of them all. For them, the assertion and maintenance of territorial dominion was a law of compelling necessity. To that law all forms of vegetable life must bow.

And now Moses looked at the green world about him with new eyes, examining it attentively, confirming everywhere this new comprehension that had come to him. Sometimes he seemed to find vegetal forms that did not obey the law; but, when he looked more closely, he saw that it was not so. The law of territorial dominion, which must be asserted and maintained in order to secure sustenance, had no exceptions.

It was a cruel law and merciless. It forced upon living things

an overpowering egotism that considered nothing but their own existence. But in this world of green, what matter? Things just lived and died, and nothing gave thought to anything anyway.

How was it with the animal world? Did the law operate there, too? It seemed not, for no animal took permanent possession; none stayed in but one place, rooted to it like plants. Animals had freedom; they moved about, hither and yon, going wherever they pleased.

But was that wholly true? Was it not, rather, that they moved about in search of food? Did not he, as a shepherd, take them from pasturage to pasturage as they exhausted the food supply of one place and so had to be moved to another? Yes; that was why they moved about. Food was at the root of it. Again it was food. And, as they cropped the herbage here and moved on there, were not they, too, asserting a kind of territorial dominion? True, it was not assertion by physical occupation after the manner of plants. Nevertheless, it was a kind of dominion by what amounted to occupation. Occupying an area, they dominated it, and just as truly as the plants they fed on did. They had to go where their food was, and when it was exhausted, they moved on. Their dominion was temporary, not permanent, as was that of plants, but it was dominion nevertheless.

And the carnivores that, in the form of man or of predatory animals which, but for man, would kill and eat those herbivores, were no less dominators than were herbivores and plants. The carnivores, too, had to go where their food was. And, although they did not dominate by asserting continuously maintained preemptive physical occupation, so that their dominion, too, was only that of effective possession, it was, in all its essentials, a true dominion nevertheless.

Here, then, was another characteristic of the pyramid of life. Each and every member of every one of its three constituting ranks or levels had to assert—and to maintain all through its life—its own domination of territory in order to secure that basic necessity, food. Every individual of every one of the three levels

must rule the place where it fed or die. Egotistically, having regard only for its own existence, it must dominate its area or cease to be. And so true was this that Moses saw it as a law applying to everything that lived, even the birds and the insects, and the very fishes that darted away from his shadow when it fell upon the waters of the streams and ponds as he approached them.

The law of territorial dominion was indeed a law of life: rule the source of your sustenance or die!

How terrible, how fierce and unrelenting, was the struggle among living things for territorial dominion! The slightest defect, the smallest injury that lessened the ability of an individual to asset and maintain its dominion, was punished like a crime, for all competitors took instant advantage of it to further their own dominion.

The fierce intensity, the savage ferocity, of the contest was aggravated by the power of all living things to reproduce and multiply almost without limit. For every new arrival, every seed and every birth, added to the potential or actual number of competitors—and this in every level! All could not possibly succeed in the struggle for dominion, for the total available area was a limited quantity, while the spatial requirement of each potential competitor was a fixed quantity, too. The former simply could not meet the requirements of the latter, wherefore some must inevitably fail in the struggle for a place in which to live and grow. Some, even many, were thus foredoomed to an early death even before they were born!

An area of grass would, he knew, support only so many sheep, depending on how well the grass itself dominated the area, growing luxuriantly or but poorly, in close and rich abundance or sparsely and indifferently well. If the grass flourished, many sheep could feed upon it; if it did not, then only a few. And so there was always an optimum number of feeders. If too many, all would lack sufficent food and some would starve. If the animals were few but food abundant, they would

increase in number until the optimum was exceeded, when the consequent deficiency would force a reduction in number.

Climate and soil conditions had their effects, too, in prescribing the limits within which vegetation of various kinds could exist, and so the life that depended on it in both the higher levels. A rocky, sandy, sterile soil as against a rich and fertile one: water, and the lack of it; light, and excessive cold or heat —these too, were factors in the struggle for territorial dominion.

It was a strange and wondrous world that Moses now beheld, so peaceful and calm to see, so beautiful to look upon, and yet so terrible in stark reality for all who saw that merciless, that utterly egotistical struggle. It never, never ceased. The bats and the owls; the hawks and the eagles; the nocturnal carnivores, seeking their prey; and man, living in the midst of it, participating in it yet blind to it, seeing it not! Day and night, here and there and everywhere, the struggle went on unceasingly, without interruption.

We call it the struggle of life or the struggle for existence; and we, too, see it as a fierce and terrible thing, merciless and cruel.

Moses saw it as a struggle for territorial dominion. That he so viewed it he was to prove in later life. For what was it that he told the Children of Israel that God had promised them? It was land, a place in which to live, to dominate by permanent, preemptive occupation, a place to have for their own!

CHAPTER XI

AGGREGATES AND INDIVIDUALS

When Moses had discovered the law of territorial dominion and had traced out its implications, seeing how it affected all living things whatsoever, he must have contemplated it with horror. His sense of righteous indignation must have been stirred to its deepest depths. To think that living things should have such terrible requirements forced upon them as a fundamental condition of their existence! Could nothing escape this terrible, this pitiless law, threatening the life of every individual even before it was born? Long did Moses ponder it. Anxiously he studied what this new insight had shown him, seeking some reason for it, some understanding of why it should be. And, as he subjected it to the power of his analytical mind, he began to see more than at first appeared.

Lying prone upon a grassy slope, he dug down with his fingers, uprooting one of the plants from the soft, friable soil, just out of sheer idleness, hardly aware of what he was doing. He noticed what a quantity of roots it had, even though many were left behind, broken off in the ground. It seemed, indeed, as if there was as much of the plant below ground as above it. And Moses remembered the trees he had sometimes passed by, blown down and lying by the great holes in the earth beneath their torn and tangled roots. So much of them had been hidden beneath the surface, so much that penetrated deep into the earth and spread so wide in it. Was it true of plants that almost as much was below ground as above it? He could not tell, but maybe it was so. It was a curious thought, and Moses remembered it.

Lifting his eyes to gaze about him, he saw the carpet of green grass stretching away and over the curve of the hill. How

strange that he had never thought of it before, but now it came to him that, although each individual plant occupied but a spot or point of ground, the greensward, made up of innumerable such individual plants in aggregate, dominated an extensive area, a superficies. But then, so did the sheep and goats as the herd moved here and there, cropping the grass, browsing on the leafy shrubs and the low-hanging branches of trees. The sheep and cattle, too, dominated but a spot at a time individually, yet, in aggregate and through the day, the two areas of aggregate dominion were the same, the same by identity!

Then, as his thoughts moved on, he saw that the same could be said of the carnivores that, in wild Nature, would dominate the herbivores his flock represented. They would kill and eat an individual here and there, and another somewhere else. And so, in a less easily perceived yet nonetheless positive way, they, too, in aggregate, would dominate an area. And that area would be exactly the same as the area dominated by the herd!

What did this mean? It meant just one thing to him now: that, while there was that necessary diminution of number as life rose from level to level in the pyramid, there was never any shrinkage of aggregate territory dominated. *The aggregate of territorial dominion was constant,* and the highest level held dominion over the same extent of territory as did the lowest—and the level between them!

Curious, was it not? that things living in a fixed location and those moving from place to place should, in actuality, dominate one and the same, the identical, area! How could that be?

If it were true—and Moses was satisfied that it was true—it could be so only because, as life rose from level to level, there was a corresponding *increase in extent of individual territorial dominion.* This was, indeed, simply the effect of the coincidence of aggregate dominion ruled by a diminished aggregate number of dominators: it had to be that way. For, if the same quantity were divided as a dividend by a decreased number as divisor, the quotient was necessarily increased, and in inverse proportion. The average of *individual* territorial do-

minion for a smaller aggregate number had to be just so much more than it was when the aggregate number was larger. Thus, if you halved the total number of dominators, the average individual extent of dominion was doubled.

It was simple arithmetic and easy to figure out, once you saw how it worked, but Moses had never thought of it before. All his life he had had this spread right before his eyes, yet he had never really seen it until now! How blind we can be to the obvious when easy acceptance of it as commonplace keeps us from paying attention! How long a time had it taken Moses to see with truly perceiving eye these so obvious principles!

Now he had three. First, that *diminution of number* seen in the three successive levels or strata of the pyramid and resulting from the feeding of a higher rank upon a lower, its source of sustenance. Because nothing can derive sustenance from what does not exist, it followed as a corollary that each superior level must have been preceded in time by that next below it and which supplied it with sustenance, so that the order must have been: vegetals, herbivores, carnivores.

Second, there was the principle of *coincidence of aggregate territorial dominion,* rank by rank, level by level.

Third, there was that result of those two, their necessary consequence: *increased individual territorial dominion* with rise in rank, a concomitant of superiority.

As Moses pondered these principles, seeing them exemplified everywhere around him as he had never noticed them before and as few others could have seen them (for not even the wisdom of the Egyptians touched upon them), he came to feel that there was in them something akin to a system, an orderly arrangement, almost a plan. But what did it lead to? What was behind or beyond it? What use had it, what purpose?

Moses was making good use of idleness, and there was plenty of time for thought. Yet, think as he might, he now seemed to make no progress at all. The three grand principles he had, but they led nowhere. He had come to a standstill.

As he had done so often before, he idly pulled up a small plant

and studied it. Again he was impressed by the quantity of roots. Not knowing of chlorophyll and the part green leaves play in manufacturing food for plants, he saw the roots alone as its feeding parts. Through them the plant derived its sustenance from the earth, and they were many.

Animals had no roots but they did have stomachs and a lot of "innards." They took in food through their mouths and expelled waste, having taken what they needed from it between ingestion and excretion. It took a lot of intestines to do that, and more for the herbivores to do it than for the carnivores. The bellies of the herbivores were big; their ribs curved out like barrel staves. But the carnivores had bodies so thin from side to side as to be almost flat. When Moses had killed both kinds and cut them open, he had noticed how very much longer in proportion to body-length the intestines of the sheep and cattle were than those of the wolves and leopards. Perhaps there was something in this that bore on the pyramid of life. Gradually it began to clarify in Moses' mind, and it did indeed bear on the pyramid of life.

In the lowest level—that of the vegetable kingdom—the alimentary system was greatest of all in proportion to the "body." And plants, as well as Moses could tell, spent all of their time in feeding. They had (as it were) no feeding time but were always sucking food from the earth. Their sap was always flowing, except when—in the cold winter or in time of drought—they seemed to be asleep. On them the herbivores fed, and they had a relatively smaller but still quite large alimentary system of digestive organs and tubelike intestines. A large part of the day, and occasionally at night when they were hungry and thin, they were occupied in taking in sustenance. But the carnivores spent only a comparatively short time in feeding, and yet they had the relatively smallest digestive equipment of all three. Savage and powerful, cunning and skillful in capturing their prey, silent of movement yet swift and sure in attack—how nutritious must their food be! Small in quantity as compared with the others, but rich in quality! And was not this

significant? Did it not have meaning? Let us see.

With diminution of number—and unlike territorial dominion—there appeared to be an accompanying decrease in relative bulk and length of the alimentary system. Yet there was no body weakening, for the carnivores were powerful brutes, even the smaller ones, for their size. So it must be that there was a concentration of food value. The vegetals took nourishment from the soil and turned it into vegetable matter. The herbivores took nourishment from vegetable matter and turned it into meat. And the carnivores took nourishment from meat and turned it into . . . what?

Again it ended in a puzzle! Again, although another principle seemed to appear—the principle of *concentration of sustenance by transmutation*—it led nowhere.

Discouragement set in. Moses almost abandoned the quest. He sought understanding, but it baffled and eluded him. Yet he came back to it again and again. It would not let him rest. It gave him no peace. It rode him like an Old Man of the Sea. He almost regretted that he had ever begun to think.

Often, at night, he would awaken and lie still, quietly thinking. Or, sometimes, he would rise and go sit by the fire, lost in contemplation.

How disappointing—to get so far and not get any further! He was angry, disgusted with himself, disappointed and provoked. But he could not let go of it.

Neither would it let go of him!

CHAPTER XII

MAN AND THE CARNIVORES

As the season advanced, Moses began to work his flocks slowly down from the heights to the greener valleys below. Winter was approaching, and all the flocks and herds were on the move. Each owner had his private mark, and the sheep and cattle were allowed to mingle freely. But, even without identifying mark, every shepherd, every herdsman, knew his own animals individually and could describe any single one of them with amazing detail. Disputes of ownership seldom arose; but, when they did, judges were appointed, who quickly settled them.

As the livestock gathered, so did the tribesmen. Around the campfires they met, exchanging greetings, eager for conversation after their lonely sojourn in the hills, telling of their experiences, praising this locality, condemning that. Some had had encounters with predatory animals, and fought them off; others had suffered losses, more or less severe; and some had wounds or scars to show. Moses joined them, but his talk was like theirs, the common talk of shepherds down from the hills and back with their fellow men once more.

One day there was great excitement. Wolves had boldly raided the sheep and had killed a dozen or so before the few men on guard could get near enough to drive them off. A hunting party was hastily organized and had been so lucky as to kill two. Brought into camp, the bodies were skinned and then thrown into a nearby ravine for the vultures and the ants to dispose of. For, of course, no carnivores were ever eaten.

Moses had been away at the time and had had no part in either the alarm or the hunt, but he heard the story and saw the pelts.

All the men agreed that luck must have been with the avengers, for wolves were wily beasts and hard to kill. Like all wild animals, unless wounded or cornered, they fled at the approach of man.

None of Moses' own sheep and goats had been killed, but the little incident brought home to him something he had not thought of in just that way before, or with such force. It was food again. The wolves were seeking food, and he and his fellows had that food and were determined to keep it for themselves. So, it appeared, man competed with the carnivores, and competed with them for food. Also—and why hadn't he thought of it before?—those predatory animals, the carnivores, were afraid of man, for they fled at his approach!

Now, thought Moses, what did that mean? In the pyramid of life, the third and highest level was that of the carnivores. But these nomads were essentially carnivores themselves; and if all other carnivores fled at man's approach, then man was the greatest, the most masterful carnivore of all!

Fleeing at man's approach, frightened at even the scent of him, hunted down and killed by man, those other carnivores—the members of the pyramid's highest rank with which man competed because he, too, was of that rank—were being slowly but surely exterminated. More and more, then, man was coming to be the only surviving member of the carnivorous level of the pyramid of life!

That was a breath-taking thought. How strange that such simple, such obvious, such everybody-knows-it things as this should take so long to break through the crust of familiar acquaintance with them and become seen as thought-out truths!

There was not a single fact in it that Moses had not known long ago. There was nothing to it that was not perfectly obvious. And yet . . . to see it as he saw it now had to be puzzled out as if it were some difficult problem!

Once you saw it, how simple it was! If you didn't see it, you could be as blind as a bat, though you knew all that those who saw it knew!

It was no problem, of course. Nevertheless, it was part of a problem: the problem Moses had been pondering so long, the problem of the pyramid of life and what came of it. And now Moses felt an uplift of spirit. For at last his cogitations had brought him face to face with man!

Man, and the other carnivores, his competitors! Man, and the highest level of the pyramid of life! Would the day ever come when, at last, that carnivorous rank was occupied by man alone, its sole constituting member? That time might, indeed, come. In Egypt as in Babylonia, it had already arrived!

But what about the two lower levels, the herbivorous level and the level of the vegetable kingdom? Were they involved in this increasing dominion of man?

Why, now that he began to ask the question, Moses could see that man was asserting a kind of dominion there, too. For he had his domestic animals; and they—except for his dogs and his cats, tamed and useful to him if only as pets—they were all herbivorous animals: sheep, goats, cattle, camels, horses—there were no carnivores among them, only herbivores. And, in the vegetable kingdom, man had the grains, the melons, leeks, onions, cucumbers, and whatnot—many kinds could be listed, even fruit-bearing and otherwise useful trees and palms. There, too, man was asserting dominion, cutting down and burning or leaving to rot the kinds not useful to him but making exclusive dominion possible for those that were, and by aggregates. For man was cultivating them agriculturally, and what was that but giving dominion to the plants of his own choice? It was man who, by artful means, created artificial conditions through which selected plants might with certainty assert and maintain territorial dominion, and usually in aggregates of the same kind as man planted and cultivated his fields, his gardens, and his orchards. Indeed, at the vegetation level, the struggle for dominion had been eliminated almost entirely.

So man, then, was shaping the pyramid of life to his needs, and not just part of it but all of it. More and more, as Moses thought back over the traditions of the migrations and settlings

down of the peoples, especially in Mesopotamia where there had been a succession of peoples, he saw that man was taking and asserting his own rule over the whole of the pyramid of life. And what came of it?

What came of it? Why, nations came of it, nations and civilization! Nations came of it; and, with nations, civilization!

Moses now stood on the verge of his great discovery, the basis of a concept which was to lead him on and make him the mighty figure in history that he became.

What he had worked out was simple and self-evident, plain for everyone to see and easy to understand. There was an it-could-not-be-otherwise quality about it and a ubiquity (for it was everywhere) that made it commonplace. Everybody knew it; nobody would dispute it when it was pointed out. But, before it could be pointed out, it had to be seen with discerning eye.

Everybody knew it and yet nobody knew it, or so it seemed. Every human being that ever lived had fashioned his life around it, had helped develop it, had lived as part of it. And yet, who before him had really seen it?

First, the vegetable kingdom, for no higher level could exist until there was food to sustain it. Then the level of the herbivores, followed by that of the carnivores, including man. Each higher level was sustained by the multiple consumption of members of its next lower and immediately antecedent level, so that each superior level depended on the prior and continued existence of its own inferior level. The principle of diminution of number from level to level, and that of increased individual territorial dominion because the aggregate dominion of all the levels was the same. Then man, exterminating his carnivorous competitors and, through animal husbandry and agriculture, making the whole pyramid subserve his ends.

And from it all, nations and civilization emerging! How wonderful it was!

Now, indeed, Moses had food for thought. But his vigorous, active, inquiring, analytical mind—not easily satisfied—was hungry for it.

CHAPTER XIII

MEN AND NATIONS

Long hours did Moses now spend in rumination, chewing the cud of thought. Now the physical idleness and the solitude of a shepherd's life in the hills were welcome to him, and he longed for their return. The days passed, and at length Moses had his beloved solitude once more. His dog was now as his right hand, ever alert and watchful, well trained and obedient. It guarded the flock while Moses sat motionless, lost to all around him.

By now, his manner, his habits, his very countenance, had changed to a marked degree, reflecting the inner change that had come over him. His eye took on a piercing look that seemed to go right through things and that gave men pause as he stared at them when—as happened occasionally—shepherds met. And there was a certain dignity and poise about him that they respected. No longer impetuous (though the old sense of righteous indignation was as strong as ever), he took on the concomitants of the philosophic temperament: slowness of speech, an unegotistical lack of self-assertion, long periods of silence when with others, a mechanical performance of his daily duties, and even some carelessness of personal needs and appearance. It was not laziness or slovenliness; it was only that his mind was busy with what he deemed more important matters. And they were—to him. For he was engaged with the problem of man: man, and his place in that Scheme of Things, the pyramid of life.

How often now did his thoughts return to Egypt, where he had been born, where he had grown up, where he had spent his early years, but from which he was cut off completely and forever! For now he was a nomad, leading the life of a nomad, and a nomad he would stay until he died.

Yet his thoughts continually returned to Egypt, recalling what he had seen, had heard, had known. And contrasts between Egyptian life and that of the nomads kept rising in his mind.

Egypt—a great and mighty civilization with a teeming population engaged in a vast range of activities! Egypt, where stood great stone structures beautifully ornamented and decorated in vivid, glowing colors, and in which state business or ceremonies of splendor were conducted, as they had been for thousands of years! Egypt, the land of plenty, where none knew famine or ever would, for there was always "corn in Egypt"! The mighty pyramids, already ancient and falling into ruin from neglect but stretching away for sixty miles along the rim of the western desert! The crowds of people, the armies of laborers and of soldiers, the great administrative organization with its halls of justice its national granaries, its irrigation systems! And, over all, the Pharaoh and his court. How rich and varied a life it was—the life of a people, organized and directed, clothed, fed, sheltered, and cared for. And the intellectual life, the daring thinkers whose minds encompassed the sea and the earth and even the heavens! How many facets that life had, and what a wondrous thing it was to contemplate! Egypt, a nation of people working harmoniously together as one!

How different was the life of the nomads! Theirs was a mere existence leaving no permanent marks on the landscape, precariously subject to the whims of the weather and the vagaries of fortune. A hard and strenuous life at best, but an impermanent thing as the tribes and the herds drifted hither and yon according to the seasons and the needs of their animals. It had its arts and skills and its personal freedom as compensation, perhaps. But was it not a vain and futile thing compared to Egypt and to that other mass effect of people living together in harmony, Babylonia?

They—those great nations—were a far grander, more permanent thing then these nomads ever could be. They were like great, everlasting trees, compared to the herbaceous growth beneath

them, green today but gone tomorrow. There was, indeed, a permanency to nations that nomadic tribes could never know. But there was more than that, too.

The most striking thing about them was that they could not come into existence until masses of men gave them being, for they were a mass effect of humanity. Always, where nations were, there was also a great company of men living together. That was the first essential: to produce a mass effect.

A mass effect? Why, mass effects were everywhere evident: the mass effect of grass was a field or meadow, an extensive stretch of green; the mass effect of trees was a grove, a copse, a forest, the noblest of them all. The mass effect of sheep and goats was a flock; of cattle, a herd. Birds and fishes also congregated in mass effects, and even insects, too. A mass effect was a phenomenon of Nature as surely as an individual was. Compared to it, an individual was nothing. And yet, as the individuals composing it were, so was the mass effect, even with mountains.

Was not man, living together in great masses, like the grass of the fields, then, and all those other mass effects? An individual—just nothing: the mass effect, everything. The mass effect, settled in one locality, cooperating in harmony, was indeed, like an individual—a greater individual but still an individual, nevertheless. And it was as an individual that Moses came at last to see it, as many another since has seen it. An individual, a "person." An emergence of life on a plane of existence higher than and superior to man!

Higher than man because deriving its sustenance, its spiritual life-energy, from him as the source of it; manifesting, moreover, all the concomitants of superiority in the pyramid of life: diminution of number; coincidence of aggregate territorial dominion; increased individual dominion as compared with its sustainers; and dependence upon the prior and continued existence of its antecedent, sustainer level, to which it was eternally bound.

And this was why, rank by rank, there was that other, that parallel diminution, that successive decrease in bulk and length

of the digestive tract which Moses had noticed, for now there was no need of any. Men, in composing that mass effect, a nation, gave it spiritual sustenance by their participation in its life. And it, having no physical body, could not use physical sustenance but only spiritual.

Now it fitted into that Scheme of Things concerning the living, the pyramid of life, carrying further the process of diminution of number and so . . . bringing that pyramid nearer to an apex, the apex of its Final One! For, if diminution of number was characteristic of the process; and if the components of its levels were of such a nature as to exclude the zero of nothingness and the partiality of fractions (neither of which living things could be), then, however large a number you started with, the process must end at last in a Final One—if only it continued to operate as a process.

And now Moses had passed the great barrier to Understanding. For he saw that, in the corporeal world, the world of physically embodied living things, man was the end. In that world no superiors to man existed, ever had existed, or ever would exist. Man was its definitive, its final end, its ultimate. But, above man and beginning with him as its sustainer, another world, the world of spiritual, noncorporeal, ethereal Beings began.

Thus, despite God's efforts to keep him from doing it, man came at last to taste the fruit of the tree of eternal life in the longer life of those spiritual Beings which were born of him. And, in his capacity to create such Beings, man had indeed become "as one of us." Creative, he was as God. And, in his role of supreme dominator of the world of corporeal being and therefore its final end, he was again like God, for he was there an ultimate, an unsurpassable. The very idea of God was of the ultimate. And so man was, indeed, "in the image of God." In their respective spheres, both were ultimates.

Thus did Moses, by his descriptive phraseology—perpetuated in the traditions and the "writings" that have come down to

us—record his perception of man's place in the pyramid of life and Nature's own Scheme of Things for the living.

In such cryptic sayings as man's having been made in the image of God lie keys to the mystery of Moses. Not to see and understand them is to fail to understand Moses.

CHAPTER XIV

THE GRAND MOSAIC VISION

The mind of Moses, discovering at last the great truth that national social organisms are indeed living things, emerging as individual "persons" or Beings on a plane of existence in the pyramid of life superior to that of the carnivores which man, despite his partial adoption of the vegetarian habit, was coming more and more to occupy exclusively, was not, perhaps, very clear as to what constituted an individual. Plants, taken singly, were individuals, and so were animals, including man. By the rules of superiority in the pyramid, Moses was forced to think of national social organisms as individuals. But he would not have attempted to define an individual as a modern scientist might. Nor would he, perhaps, have thought of individuals as natural phenomena always having (among other characteristics) the two-fold essential of a differentiated internal environment walled off from the external by integumentation. He would not have had any idea of cells or atoms, or that (in the atomic theory of electronic arrangement in concentric shells outside the nucleus) individualization might be seen as operative in the field of microscopic physics. For he knew nothing whatever of microscopes or of atoms, bacteria, and cells, or the filterable viruses, rickettsia, and other wonders of the microscopic world. Nevertheless, he had an over-all view that sufficed, and which later discoveries only confirm and extend. And, like that Grand Old Man of the biological sciences, Dr. William Morton Wheeler, he would have insisted that societies are true organisms in fact and not merely by analogy. The reasoning would differ, the basis of it would not be the same, but the conclusions would agree and the arguments in support of them would be equally valid. Both would result from observation and the application

of previously determined principles or criteria. And it may be said without disparagement of Wheeler and his concurring fellow scientists that the view of Moses was the grander, for he saw and considered what they have neglected: the pyramid of life.

Dwelling in his thoughts upon that master-phenomenon of the living, the pyramid of life, and especially upon the superior rank therein of those great Beings, national social organisms, Moses came back again and again to Egypt, in spiritual matters so far ahead of Babylonia. There—unlike Babylonia, even under Hammurabi—one common rule of justice applied to all alike, without regard to persons or social distinctions. In Egypt, even the lowliest was sure of justice and might, if need be, do as Breasted's Eloquent Peasant had done: carry his cause up to the Grand Steward or even to the Pharaoh himself. (Ref. 9). For the Egyptians had developed a high regard for justice, righteousness, and truth, all epitomized in a single word, their beloved Maat.

Far back in ancient times (as the priests had told him) there had been no abstract ideas of right and wrong, only—at first—of conduct that was to be approved or disapproved. Beginning in family life, such ideas had spread out to include the household, then the community, and, at last, all members of the nation, all the people—but not outsiders, those foreigners who did not "belong." So had the human conscience been born, and so did it develop until it had become a great spiritual force, national in scope.

In the beginning, too (he had learned), that life in the Other World in which the Egyptians believed—but of which there was no proof at all—had been open to the Pharaoh alone: only he might aspire to it. Later, the privilege had been extended to the baronial class, the nomarchs of the Feudal Age. Then it spread down to the lower classes until there lived no person anywhere in all Egypt to whom a future life in that Other World was not open if only he, by righteous conduct in This World, had proved his worthiness. Now, all men in Egypt might die with hope of that Other World in their hearts. (For the Egyptians believed the heart to be the seat of the "soul.")

In such manner was Moses led to think of that great social organism, the nation, in terms of all men, all its supporters and sustainers, all those who, by their conscious or unconscious devotion to it and participation in its way of life, gave it sustenance and made it what it was.

Yet it, by the great gift of distinctive nationality, made those supporters and participants what they were. On them the nation set a seal certifying by characteristic manners and customs, speech, and ways of thought, that they belonged to it. For you could tell an Egyptian wherever you saw one, even those who had left home to live abroad but who betrayed their national origin in little ineradicable, unconscious ways, though they were but shibboleths of speech or tricks of habit.

Over all Egyptians—as over all Babylonians—the great national Being asserted its dominion, making its members what they were: nationals and, as such, sustainers of it. Not some of them but all of them, just as the moral precepts national life had forced them to work out applied to them all. And the sense of nationality was the walling-off integumentation by which those Beings preserved the internal environment essential to individuality.

Thus, with his "all men" view, Moses came close to the basic democratic concept which later was to rule the minds of the Greeks. For an Oriental, and for that day and age, it was a remarkable intellectual achievement. It could be possible only to one who had attained that skepticism which, says Breasted, "means a long experience with inherited beliefs, much rumination on what has heretofore received unthinking acquiescence, a conscious recognition of personal power to believe or disbelieve, and thus a distinct step forward in the development of self-consciousness and personal initiative. It is only a people of ripe civilization which develops skepticism. It is never found under primitive conditions." (Ref. 10).

The Egyptians certainly were not primitives. They had the longest national and social experience known to history, and they had produced some of history's most daring thinkers. It was under Egyptian influence that Moses had grown to manhood.

That Moses was close indeed to the democratic concept he demonstrated in several ways reference to which will later be made. And that he was skeptical of an Other World such as the Egyptians believed in is indicated if not proved by the remarkable fact that, in all "the writings of Moses," *there is not one single reference to a life after death.*

Being eminently practical, Moses was not above playing upon the superstitions of others when they could not be eradicated, and utilizing them to attain his ends. But he did it only in order that his Vision, his Great Idea, might live and sooner or later find good ground in which to germinate and grow, striking deep roots that would preserve it alive forever. In time, all the men of all the nations would come to know it.

And what, in fine, was the Grand Mosaic Vision?

Reduced to writing, put into cold print, it seems like nothing worthy of such a designation. It is at first quite disappointing, for it is so simple and grows so naturally from the pyramid of life concept. There is nothing secret or mysterious about it. Only when one has realized to the full what it grows out of and what it grows into can the grandeur of it be seen, known, and felt. And, though it may seem to lack inspirational value, it may be said with no little assurance that devotion to it was the distinguishing characteristic of two of the highest spiritual authorities known to history: Moses, the great Lawgiver of the Hebrews, and Jesus of Nazareth, his disciple.

Simply stated, it was that above the level of national life there must emerge a yet higher level occupied by supranational organisms deriving their sustenance from nations as their sustainers in the pyramid of life and displaying all the characteristics of evolutionary superiority therein. Thus it was an evolutionary doctrine and a philosophy of history, both on the grand scale and both prophetic.

But what gave it its grandeur was not alone its scale, the vastness of its scope, but the truth that, to call such supranational Beings into existential reality, the nations sustaining them must work together in harmonious cooperation; that, in short, men must rise to a vision of all men, all humanity, motivated by a

single basic purpose, one of whose earliest effects would be the elimination of war between or among them, and so the coming at last of peace and goodwill to man on an international scale, limited only by the extent of international cooperation. And that would require not only an equally extensive sense of brotherhood but also a powerful social consciousness and conscience in each sustaining nation. It meant the human spirit tending toward worldwide altruism in the finest, noblest sense. Then—and only then, as Moses believed—man might bring heaven to earth and, *in This World,* make real the Utopias of his dreams.

None but a man with such a vision could compose such an allegory as that of the tower of Babel.

Not only is the Vision embodied in the tower of Babel allegory; it is pointed to in the Mosaic cosmogony. For there Moses showed the great Creator laboring for six days with his creative work and resting on the seventh, which he sanctified. No work did God perform in that seventh day or epoch; for in that seventh day it is his creature, man, who takes up the work and carries it on.

Up to the level of man, and even of the nations, the creative forces are the "blind" forces of Nature and evolution, or "God." But, from then on, all depends on man. There are still compulsive forces in operation, but only in and through the spirit of man can they now operate, for man is essential to them. Therefore, said Moses, God rested in the seventh day and sanctified it—to man. It was for this reason that man was given dominion over all the creatures of the earth, a dominion which they acknowledge by love or by fear. For the work of creation has been given over to man: without him it cannot proceed.

This is the Day of Man. As a later writer—too little understood and too little appreciated—was to put it in his inimitable verse, it is as though a fiat had gone forth:

> "Ho! Get to lair! The sun's aflare
> Behind the breathing grass:
> And creaking through the young bamboo
> The warning whispers pass.

By day made strange, the woods we range
With blinking eyes we scan;
While down the skies the wild duck cries:
'The Day—the Day to man'!"

(Kipling)

In a later chapter, we shall discuss the reasons for calling Jesus a disciple of Moses. But here we may anticipate by quoting the following significant words accredited to him:

"Do not think that I will accuse you to the Father: there is one that accuseth you, even Moses in whom ye trust. For had ye believed Moses, ye would have believed me. * * * But if ye believe not his writings, how shall ye believe my words?" (Ref. 11).

Well may one ask: How, indeed?

CHAPTER XV

THE VISION AND THE COSMOS

As the great Vision spread itself before the inner eyes of Moses, realization of its possibilities slowly grew upon him. Relief for mankind from the terrible compulsions of that struggle for territorial dominion the contemplation of which had so filled him with horror; the elimination of war, with all its cruelties, and of that cruel mercy—the only mercy warfare knew—slavery; the happiness of peoples and of nations, working harmoniously together for the common good of all, aiding, assisting, cooperating with one another and rejoicing in each other's prosperity! How beautiful it all could be—and here, here on the earth!

With the coming of the Vision, Moses knew that he had gone as far as he could go with reasonable certainty. Of even what the pyramid's Final One would be like, he could not be sure. He could only accept it as something intellectually perceptible because it was implicit in the process, something that must eventuate if only there were continuity of operation. But exactly what the Final One would be like, he could not tell.

Equally profitless was it to cogitate on the ultimate cause of things, the why of them. That could be nothing but the rankest speculation, with no way of knowing whether what one thought was true or not. And Moses did not have the kind of mind that delights in wasting itself on useless speculation.

Yet he could not help indulging in some further reflection, to round out and give a finish to his thoughts, if nothing more.

Here on the earth, the Final One of the pyramid did not yet exist. Therefore, surely, the process producing the pyramid had at least the equivalent of purpose. That purpose must be to bring its Final One, its apex, into existence, giving it reality. So much

seemed clear. But what would happen then, Moses could not even guess, and to try to think it out only wearied him.

Back in his Egyptian days, Moses had learned something of their wisdom of the stars—not much, but a little. For in Egypt —as in Mesopotamia—the study of the stars was already something to which a man could devote the energies of a lifetime. A vast body of lore had accumulated, and no little knowledge. Records had been kept for century after century, a tremendous store of astronomical data. That the earth is a sphere was known and accepted, for its shadow had been seen upon the moon, and the cause of eclipses, lunar and solar, was so well understood that the astronomers were able to forecast them with remarkable precision. The very calendar the Egyptians used—not a lunar calendar (that had been abandoned long ago) but a solar calendar, the parent of our own—that calendar had been put into effect for the first time at the heliacal rising of Sirius. For, as that bright star emerged from the overwhelming brilliance of the sun and became visible to the naked eye as a morning star, the inundation of the Nile began.

Thus, the Egyptian calendar when first instituted linked the heavens and the earth. It was a beautiful trinity: the emergence of Sirius out of the splendor of the morning sun; the commencement of the annual inundation of the Nile, on which the very life of Egypt depended; and this coincidence of natural phenomena marked by the opening of the calendar year! How perfect it was!

But there was another link between the heavens and the earth. For the stars, the constellations and especially the planets—those wanderers of the sky—were believed to affect events on earth, to have and to exert an influence that was Destiny itself. Nothing could escape it: what was written in the stars would eventuate, come what might. In the movements of the planets, Fate was written, for all to read it if they could. (How powerful does that belief remain, even "unto this day"!).

As Moses, reclining upon the ground, gazed into the starry heavens night after night, the wonder and the awe of it began to have an effect upon him. For he began to ponder on that link

which bound earth and sky together, seen in the planetary influences; the rising of Sirius coinciding with the beginning of the inundation of the Nile; and the calendar, marking that coincidence with the commencement of its year of three hundred and sixty-five days. (For that was the length of the Egyptian year until the need for greater accuracy became apparent.)

As Moses nightly gazed into the starry heavens, pondering these things, it came to him that somewhere in that vast expanse there might be other worlds like ours, other worlds where life existed and evolved just as it did here on the earth. If that were so, then in those other worlds, too, there would be pyramids of life, forming or already formed and perfect, brought to their apices and made complete. And if perfect and complete, what then?

Somewhere in that firmament—somewhere, perhaps both nowhere and yet everywhere—there well might be a larger, grander, infinitely greater Final One that would be the Ultimate Unity, the Cosmic One, of all the universe, whose whole expanse was its territory of dominion. And to it would flow ethereal sustenance from all the planetary pyramids, the apices of all those lesser pyramids of life scattered through space, each producing its own Final One to support and maintain that Ultimate Unity, superior to them all.

If that were so (and Moses had to concede that it might be), then that Ultimate Unity must itself have life: it, too, must be alive. For pyramids of life could contain only the living. And to maintain that Ultimate Unity alive through all eternity would be the use and purpose of all those lesser, those planetary pyramids, including the one Moses had discovered here on the earth. Then that Ultimate Unity would be everliving indeed, never having to experience death or suffer extinction.

Stars might die and fall in flames, as Moses had seen them do, and their pyramids be extinguished. But other stars would replace them, and now and then one flamed across the sky—a comet hurrying to its appointed place in the heavens, to become a garden of life in which a pyramid would grow, and, being

brought to its apex, send forth its streaming supply of sustenance to the Cosmic One, the Ultimate Unity of all the universe.

From that never-ending, that ceaseless supply of sustenance, coming to it from innumerable planetary pyramids, the Cosmic One must extract whatever it needed to maintain it alive—and return the residue as whatever it was that the lifeless matter of the universe was made of. So might the process go on forever, endlessly repeating itself in a ceaseless round of activity, the very characteristic of life itself!

The mind of Moses staggered beneath the immensity of his thought. It was too much! He could go no further, even in speculation. And he could not know how close he was then to what some of our greatest astronomers have come to believe from what they accept as at least suggestive evidence strong enough to support theory: not only that there are other planets than ours on which *life as we know it* can and probably does exist, but that there are literally thousands of them scattered through space. (When the 200-inch telescope at Mt. Palomar has searched the heavens and brought more data, we may know more than we know now on this.)

Shaken by the audacity of his soaring thoughts, Moses came back to earth. But not before he had recognized that, if a Cosmic Unity did exist, there might well be intermediate forms of existence between it and the planetary sources of its sustenance, to carry still further the process of preparatory concentration and refinement. And, as he remembered the three levels of the pyramid he knew here on the earth (the vegetable, herbivorous, and carnivorous levels), he wondered if the steps were always in sets of three.

Be that as it might, of one thing Moses was sure. Man, here on the earth, was the one life form in which the life force was transmuted from physical embodiment to a non-physical, ethereal, or spiritual form or phase. As the transmuting form, man was possessed of something in common with those higher intermediaries he had envisioned, and so, again with respect to them, "as one of us." Yet man was still part of the world of physical life forms. Therefore he led a dual existence, being both bestial

and godlike as was no other form of life here on the earth. Man was the Cross of Life, for in him life crossed over from physical embodiment to freedom from it.

Freedom from physical embodiment! But how could man, himself a physical embodiment of life, sustain organisms that had no embodiment?

How? Why, by living, not by dying! In man, for the first time (as Moses saw it), sustaining inferiors in the pyramid of life supplied their superiors with sustenance while yet alive. For all sustainers below man could give sustenance to their superiors only as they suffered death. One by one, singly and at random, they died a death of violence as they were killed or gave of their life, supplying food with their bodies in order that their superiors might live. And as the mind of Moses ranged over the levels of the world of physical organisms, he saw it as the World of Death. For it was a universal truth of that world that superiors could exist only at the price of the death of their sustainers.

But in those social organisms, those great societies, the nations, sustenance was supplied by the sustainers while they were alive and only as they remained alive. For the sustenance these superiors required was not physical sustenance but spiritual. Only while the sustainers were alive could they maintain and support such superiors. With the death of the sustainers, their usefulness to these superiors ended. To them, death was useless and unnecessary. And this was in direct contrast to the World of Death, where it was required and exacted.

Thus Moses began to see what he came to think of as the World of Life, in contrast to that other world, the World of Death. With man, the World of Death ended and the World of Life began, rising out of and above him and taking on reality in nations as in no lesser societies of men.

In the World of Life, too, sustenance was drawn from the sustainers *en masse,* all at once, not piecemeal or one by one. From all the living sustainers simultaneously, it flowed to the national Being in a broad, unceasing stream. For the nation was not the nation of the dead but of the living. Its life came from

life, and not through life's end in death but through its continuance in the living.

In more ways than one, then, man was the Cross of Life. In the pyramid of life there was no place, no level of existence, comparable to his except, perhaps, that of the lowest level of them all, where life itself began. There, inorganic substance was transmuted into organic. But man transmuted organic substance into something ethereal, something spiritual, without form and, as it were, void, void yet real.

As this illuminating, this awe-inspiring idea came to Moses while he lay, star-gazing on the ground, it moved him to action, to action that would give it force through expression. Rising and standing erect as only man can stand, he spread wide his arms. Then, looking aloft where sailed the stars, he exclaimed: This . . . *this* is the Cross of Life!

Here at last the mystery of that ancient symbol, the cross, was explained. Long had it had an attraction for man, who had used it as a symbol in various forms, such as the crux ansata, the ankh of ancient Egypt. But now Moses read in it a meaning he had never seen in it before. And though he did not fully realize it in just that way, what filled him with delight was the perfect harmony he sensed of form with function.

All this, as Moses knew full well, was speculation. There was little to build on, and there is little in his "writings" from which to gather it. Yet here and there a hint is found, vague, nebulous, and no proof at all. The most positive hint is found in the twenty-third verse of Exodus 33, where we are told that Moses glimpsed the "back parts" of God as God passed by. And that is all of God a man might see and live, despite the tradition that Moses knew God face to face.

It was speculation, yes. But it had its beauties, and it harmonized with the grand conceptual scheme of the pyramid of life.

Moses felt that now, at last, he had rounded out his reasoning and made it as perfect and complete as he could ever make it. Beyond it, perhaps, the mind of man cannot go. (Yet, perhaps, in this idea, Moses was fingering the key to the problem of the

perpetuation, the renewal, of the universe, offsetting, counterbalancing, the second law of thermodynamics as life builds up that energy which the operation of cosmic forces exhausts, much as matter changes to radiation and radiation is believed to change back to matter.)

CHAPTER XVI

THE URGE TO REVELATION

Many and many a night did Moses lie awake, watching the heavens as the stars rose in the east, turned slowly overhead, and sank in the west. And as he watched the stars, Moses thought of life, here on the earth.

A comforting sense of achievement grew in him. For now he had reached the end of his quest for Understanding. As much as he would ever have it, it was his. He had worked it out as far as he could go. From now on he would be just a shepherd tending his flocks in the hills, and none would know what lay within him. His life would go prosaically on until he died.

Some day, men would know the great Vision. For things would work on toward the end of the process and nothing could prevent it. If human perception of the process became essential, then that perception would come to mankind, even if it had to be forced upon humanity. But, oh, the suffering, the useless waste and want, the agonies of peoples meanwhile! How long a time it might be before Understanding came upon them as it had come to him!

It might be long indeed. Thousands of years, perhaps. Even the Egyptians—with a history already reaching far back in time, their very origins lost in the mists of a vast antiquity—knew nothing of it. Instead, the Egyptian mind was befuddled by the hypnotic power of imaginative ideas that had become fixations: magic, and belief in that Other World of the syncretized Sun-Verdure God. The minds of men were enslaved by that hypnotic power, and daily they confirmed and fortified it as they practiced the precepts, the customs and ceremonies, the mysteries and rites, in which it was enshrined. Nothing, it seemed could penetrate the armour of that power. And so men were not free:

their minds were not free to see and grasp the simple meaning of what lay everywhere around them, of what was everywhere visible, even tangible, and wanting only someone to point it out and show how it worked, even how they themselves participated in it and could not help but do so. For that was all it needed, so plain it was. Yet what use would pointing it out be when minds were tightly shut against it?

As Moses reflected on belief in magic as explaining how the forces of the universe operated; on that Other World in which so many believed; and on how both faiths obscured the perception of the real truths of This World, the old spirit of righteous indignation began to stir within him. It took the form of a growing anger against those leaders of men, those guiders and controllers of their thoughts, for not having seen what he had seen and making it public for all men to see. They were the ones—those magicians, those priests of the temples, those purportedly wise men who were yet so blind! But some of them were crafty, too, crafty and vicious. Their real interest, as he well knew, was to perpetuate themselves and their kind in power. It was not truth they sought but power. And scorn and anger against them began to mount within him.

What could he do about it? Alas! Nothing, nothing at all. For who was he? A murderer, a refugee, a fugitive from justice hiding among the nomads. Who would listen to him? And there were so many to persuade and convert! Could those masses of men be influenced away from their fixed beliefs by one man, a stranger and a nomad? Possibly, but not in all likelihood. The Egyptians were not naive; they were a highly sophisticated people sure of the long established beliefs and faiths to which they had given themselves. Little chance would there be of converting them—or the Babylonians either, should he turn to them.

Even if there were a chance and he set out to teach, what would he teach? Who would have patience to hear him to the end? For he would have to begin with the pyramid of life as it was observable in Nature: plants; the two great levels of animal life; and man among them. He would have to teach, too, that terrible law of territorial dominion, of the struggle for existence,

so cruel and merciless, so utterly final. And he would have to show how it applied to nations, as determined in their dominion as any preempting plant that occupied by physical possession. For that was what nations did, as surely as any plant. How jealous were they of their boundaries, guarding them against invasion with all their military might! And when, in his exposition, he came to that, would not there be some—even most—among the mighty who would seize upon that terrible law as justifying the most terrible measures to extend national dominion by military power?

Indeed, some might see in that law full justification for national attempts at world domination, forgetting that such attempts had been made (as by Thutmose III) and had always failed as the empires of the conquerors had fallen to pieces at the last. For it was not a universal empire that was required but a plurality of nations; not uniformity but diversity and variety. For manners and customs, like speech and ideals, varied with environment, which (being diverse) compelled diversity.

Egypt itself, though formed around one natural feature, the Nile, showed diversity: Lower Egypt and Upper Egypt were not alike, wherefore Egypt had anciently been known as the Two Lands. Twice their unions had fallen apart, and even now the Pharaoh's curious double diadem gave witness to diversity, for it was parti-colored, having Lower Egypt's red and Upper Egypt's white. Too limited was the human mind to rule vast empires except by force imposed and sternly maintained. And the harmonious cooperation of peoples came only when freely given while diversity was maintained.

There was peril, then, in teaching even the fundamentals of the Vision, the basic principles of the pyramid of life.

And if he taught that a nation was an individual, strong-willed men, lusting for power, might aspire to be its heart and mind, forcing their wills upon the "all men" of his Vision in the name of the nation, the state. The truths that men were antecedent to nations, and that nations could be only as their sustaining components were, would be forgotten, passed over and disregarded. For the relationship between state and man was

one of mutual dependence, not of subordination, one to the other. Moreover, because nations were individuals, only by a plurality of number could they constitute a rank or level in the pyramid. So must it be with all the levels until, in the Final One, aggregate dominion merged into and was lost in individual dominion. Despite its simplicity, how difficult a concept to expound in such a way that temptation to perversion would not arise!

So must Moses have weighed the *pros* and *cons*. And so must he have arrived at a negative decision, regretfully but with unanswerable logic.

Yet there was, strong within him, that urge to revelation which all discoverers of great truths must know. Long had he thought; long had he wrestled with the problems solved by the pyramid of life. In it he had found . . . if not *the* answer then at least *an* answer. And if he did not reveal what he had thought out, then it was the same as if he had not thought at all: he might just as well never have existed! Not to reveal was a selfishness: to reveal stood forth as a duty, for there would be others—probably many others—searching for Understanding as he had searched.

He seemed to have arrived at an impasse. It was incumbent on him to tell what he had found. But there was such peril in revelation that he dared not tell. What was he to do? Alas! He did not know.

So matters stood when, with the turn of the seasons, Moses again led his flocks into the hills.

CHAPTER XVII

ONE ONLY WAY

The places where Moses grazed his flocks were now well known to him. So often had he used them that he had established a priority of claim over them. As with most of the shepherds and herdsmen, he had a range for his animals where his exclusive right was recognized. And he had worked out a routine. At one certain time he would be here; at another, there; at still another, over yonder. His flocks had grown by natural increase in response to the care he had given them despite his mental preoccupation. In nomadic eyes he was now a man of means, and young men of the tribe sought employment under him. Two were with him now, and he had brought not only his family but also Hobab, a son of his father-in-law Jethro, or Reuel. For Hobab, though but a few years older than his own sons, was already wise in Wilderness ways and would unconsciously impart his knowledge to the lads.

Moses now had more time for thought than ever. But only one thing gave him much concern: What ought he to do?

From a pinnacle of rock to which he often repaired for contemplation, Moses could look off southward to Mt. Sinai. A volcano, it was a pillar of fire by night and of cloud by day. For this was a volcanic area, and sometimes Moses could hear the rumble of an on-coming tremblor that shook the ground beneath his feet ere he had time to fling himself down full length, alert for dislodged boulders.

Far beyond Sinai lay Africa and the Great Rift, and Moses, gazing into the distance, might recall the tales of seamen who had voyaged down Africa's coast even as far as what is now Sofala Bay. Inland from there, in what we call Rhodesia, tin was mined, for mixing with copper to make bronze. And, some

200 miles inland, were gold-bearing outcroppings of quartz. By building fires against them and dashing cold water on the heated rock, pieces could be broken off, to be crushed and washed for gold. Sometimes a sheepskin would be set beneath a fall of water, and in its rough fleece the golden grains would be caught, having only to be shaken out and melted down. The gold was cast into X-shaped ingots that circulated even as far as Babylonia. A strange land was Africa, source of many a curious tale.

Thus did Moses' thoughts drift idly on. But always they came back to that problem of what to do. It was with the level of the nations that he had to deal; with men, to be sure, but especially those great organizations of men that were nations, and not just with men as such. Therefore . . . if only he could . . . but no! it was impossible. If he had a nation, even a small one, to mold and shape as he would, perhaps he could teach by that best of all methods, example. But how could he get command of a nation? He put the thought aside as one of those things we sometimes wish we could do even while we know we cannot.

To clear his mind of such wild dreams, he had recourse to magic, which had for him a lasting fascination. Once so adept, he found himself grown slow and clumsy: the merest tyro could do better. It put him on his mettle and soon he had regained his former skill. But he was not satisfied, for nothing but perfection could lift him out of his mood of uneasy discontent.

He continued to practice. He would cast his rod onto the ground, and it became a serpent. He took the serpent by the tail, and, lo, it was a rod again! Or he would make the dry wood of his staff bear buds and blossoms. Walking about, he would thrust his hand into his bosom, mutter some strange abracadabra, and bring it forth, leprous. Then he would thrust it back and draw it forth again, clean. Such diversions relieved his mind but could not rid it of its burden.

One day he found himself again at the place where first he had seen—first truly seen—life in vegetal form. It was now holy ground to him, for there had begun his understanding of the pyramid of life. Again he contemplated the bush, and almost it seemed to speak to him aloud, demanding revelation. Revela-

tion? Yes; but how? How reveal, and reveal with safety? The only tool he could use for that purpose, as he so clearly saw, was a nation. And where was the nation?

Where was it? Why, there in Africa, in Egypt! And it was the Hebrew people, once his own! It might be his own again if . . . ! No nation, but the makings of one!

But were they still in Egypt? No doubt they were, for he had heard nothing of their having left it.

How could he get control of them? He would have to extricate them from Egypt, which might not let them go, for labor was prized in Egypt and slave labor was cheap.

Dared he return to that fatal land, he, with a price upon his head for his old crime? Even if he took that risk, would the Hebrews give heed to him? Did they not have their own leaders who ruled in the slave quarters if nowhere else and whom they followed and obeyed? Assuredly they did. Then why should they listen to him?

Carefully, anxiously, he weighed the possibilities. And a plan began to form itself, a plan vast in scope, high in aim, and rich in promise, but so beset with difficulties that it seemed impossible of execution. Yet he toyed with it. And gradually, even as he argued with himself against it, it took hold of him with an impelling force increasingly difficult to resist. Slowly, almost unconsciously, he began to scheme.

It was at this time that he thought out the plan of his allegories, his revision of the Babylonian cosmogony, and composed that half factual, half fictitious history of the Children of Israel with which he was to arouse and bolster their pride of race as a people chosen of God. (His superior lore in this, so largely his own concoction, was to stand him in good stead in days to come, giving him an authority that others could not match.) Every detail he could think of he worked out carefully, going over it again and again, reviewing, checking, amending, revising.

But alas! The Hebrews, under him or any other leader, would never be a nation until they had established territorial dominion. They would have to assert it and maintain it. Without land,

there was no nation. And where and how could they acquire land?

Did Moses travel now, with new attention spying out a land for his prospective people? Did he visit Mesopotamia and the regions between, the lands nearer by? Alas! The story does not tell. Yet we may imagine him journeying about in the habit of a trader, visiting this land and that, this city and that one. And none who encountered him then knew that they were rubbing elbows with one of the great ones of the earth in the person of that roughly clad figure with eagle eye and black and flowing beard!

At length his choice fell on the land of Canaan, a goodly land well suited to his purpose, for it lay mid way between the Nile and the Euphrates and the two great nations built around them. If his plans succeeded, the light of Hebrew genius might shine from Canaan on both at once, showing them how nations should live by exemplifying his ideas of national life and international relations. Then there would be the minimum number for harmonious cooperation. Two meant rivalry, inevitably. But three . . . with three there was good chance for cooperation to develop. And so we see a reason for Canaan becoming the Promised Land, a land of promise in more ways than one.

Here we are confronted with the most bewildering fact in the whole life of Moses. For he who was to give the Hebrews the famous Ten Commandments, one of which is: *Thou shalt not kill,* was the same one who was to initiate a war of aggression against the Canaanites as unprovoked, as cold-bloodedly conceived and planned, as any known to history, ancient or modern. How could he do it; how could he justify the pitiless extermination of a whole people, man, woman, and child, till not one was left alive? For that was what he planned to do so that his people might exercise territorial dominion and become a nation, a nation free of the disturbing presence of racial minorities. By what casuistry did he overcome those scruples which he surely must have had?

Did he think of the end as justifying the means, even such terrible means? In that commandment, given to guide *individual*

conduct, did he intend to distinguish between private and public war, applying his precept to the first but not to the second? Did he think it no crime to follow the custom of the age in international relations in order to create a means of changing the custom of waging unprovoked war, taking captive, and pillaging without shame? If so, he overlooked or was unaware of the example of that Hittite king of the Thirteenth Century B. C. who acknowledged the immorality of his unprovoked attack upon Egypt under the Pharaoh, Ramses II. (But only after disaster had befallen his own country and made him believe he had offended the gods!) Or did Moses have the feet of clay of those enthusiasts whose ardor carries them to extremes regardless of consequences?

A satisfying answer to this enigma in the life of Moses cannot be found unless one grounds it on belief in divine inspiration and guidance. But the arguments against that are too numerous to permit acceptance of it. Yet, even then, responsibility would merely be shifted from Moses to God, and the questions would still await an answer.

Whatever the answer, the fact remains that Moses must have developed his plans in broad outline and considerable detail before he returned to Egypt; that he carried them out with unswerving determination; that they included the conquest of Canaan; and that one of the bitterest disappointments of Moses' life came when, after he had led the Hebrews to the very borders of the Promised Land, they recoiled from invasion, refusing to attack.

Now, even when Moses had his plans almost complete, doubts and uncertainty still assailed him. He questioned his own fitness for the task. Ought he, who had become careless of self, assume the care of many? Could he, a man given to introspection and long periods of silent rumination, a man slow of speech and of few words, enter upon an undertaking one of the first requirements of which was to exercise with consummate skill the art of vocal persuasion? Dare he risk arrest in Egypt for his old crime, that crime of his early manhood? He had his skill in magic and belief in his cause to rely on. But were they enough?

Down into Egypt he sent trusted men to find out by cautious inquiry how matters stood there, the condition of the Hebrews, and what memories of his crime remained.

Through them he learned much. First, the Hebrews were still in Egypt, held there in slavery. Second, they yearned for freedom but called upon their gods for it in vain. Third, his personal safety was assured, "for all the men are dead which sought thy life." (Ref. 12). The way, then, was clear. No more could he hold back, fighting against himself.

His last doubts were dispelled when he remembered Aaron, his brother, he of the ready tongue and flowing speech. Aaron could do the talking for him if he would. And so, no more resisting, he sent word to Aaron, arranging a meeting with him on the road to Egypt.

Taking with him his wife and their two sons, Moses set out upon the great adventure. And with his departure for Egypt the second period of Moses' life came to a close.

PART III

CHAPTER XVIII

THE GREAT ADVENTURE BEGINS

With his departure for his rendezvous with Aaron on the road to Egypt, the third period of Moses' life began. Hardly had it started when there occurred one of those episodes the narration of which does so much to make up for the deficiences of the Biblical account.

High with hopes but still troubled by an undercurrent of anxiety, Moses was going back to Egypt to do his utmost to free the Hebrews and so provide himself with an instrument such as he needed—not yet, indeed, a nation, but still the makings of one. To accomplish his immediate object, he would have to persuade the people to put their trust in him and give themselves into his hands without reservation. That was the first of the difficulties he would have to overcome to give his Vision reality.

Rapt in thought, oblivious of all else, he pondered the forthcoming meeting with Aaron, to whom he would reveal merely his present purpose. There was no one whom he dared take fully into his confidence, yet he must have his course of action worked out in detail. And if he did not really believe all that he must proclaim, he must act as if he did. There must be the ring of sincerity and truth. And so he marched on, ruminating.

Suddenly it strikes him like a thunderbolt that he has completely forgotten one detail the neglect of which would wreck his project in its incipiency. For here was he, about to proclaim himself a Hebrew. And there were his two sons, uncircumcized!

Instantly he halts, and—too agitated to do it himself—he forces the bewildered and horrified Zipporah to perform the

operation then and there. Although the incident as it is so graphically related in Exodus 4:24-26 is couched in theological language, it is quite evident that, if Moses was under divine inspiration and guidance, it had failed him badly. The shock of realization of what his oversight might have cost him nearly killed him! He had to put up at an inn to rest and pull himself together.

His equanimity restored, he went on. The meeting with Aaron occurred as planned; Moses revealed as much as he thought necessary; Aaron agreed to lend Moses his support; and they entered Egypt together, going to the Hebrew quarters in the land of Goshen. Then, with Aaron's aid, Moses rehearsed to the people the story he had prepared, the pseudo-history of them he had composed, including the alleged promises to Abraham, to Isaac, and to Jacob, of land to have for their own, and he performed feats of magic to prove his power and the power of the Lord in whose name he claimed to speak and to act. His bold pronouncements, his magical power, and, above all, his promise to free them and lead them to a goodly land to have for their own—thus answering to their dearest hopes—soon persuaded the people and they yielded leadership to Moses.

Having won his first move, Moses took Aaron with him and petitioned the Pharaoh, naively asking that the Hebrews be allowed to go three days' journey into the Wilderness to worship their god. But the Pharaoh was not taken in by this transparent bit of subterfuge. He disclaimed knowledge of this new god, spurning him. He reprimanded Moses and Aaron for their temerity, and punished the Hebrews for the interruption of their work by increasing the severity of their treatment. As a result, they withdrew their confidence and "harkened not unto Moses for anguish of spirit, and for cruel bondage."

Taken aback by the Pharaoh's repulse and his own loss of prestige, Moses had recourse to an expedient that often thereafter was to serve him well in time of crisis or perplexity: he retired for self-communion, represented in the Biblical account as talking with God. It served its purpose now as later, restoring his confidence and enabling him to come to a decision.

His courage renewed, Moses returned to the attack. This time he laid his plans more shrewdly. By careful maneuvering, he was able to reduce the matter to a contest of skill with the magicians of the court, a competitive showing of miracles.

Having received Egyptian training in the art, Moses was confident that he could do all that his competitors could do and more, for he had continually added to his repertory, and assiduous practice had perfected his skill. So, opening with performances he knew the others could duplicate, he passed on to more difficult ones that they could not match, until they were forced to acknowledge his superior power and confess it to the Pharaoh. The marvels then produced have become legendary and magnified with repeated telling until, were they true, the alleged power of adepts in magic to control the forces of the universe would have to be admitted.

The outcome was even better than Moses had hoped. Not only was freedom granted the Hebrews; they were urged to depart, and at once, taking their possessions with them. So confident had they been of Moses' success that they borrowed from the Egyptians as he had told them to do, and they took their borrowings with them, "jewels of silver, and jewels of gold, and raiment." In this manner, "they spoiled the Egyptians." (Ref. 13)

And thus, after a "sojourn" in Egypt said to have extended over "four hundred and thirty years," during all of which time their god or gods had permitted them to suffer the indignities of slavery until the slave psychology was ground into their very souls, the Hebrews departed under the leadership of Moses. But for his Vision and his urge to give it reality, they might have remained there for ever, one of those nameless peoples whose very existence passes unnoticed in history's pages.

With the departure from Egypt, the first of Moses' major difficulties had been overcome. And with its conquest the great adventure on which he had embarked had at last begun.

CHAPTER XIX

THE MARCH TO SINAI

Having assembled the Hebrews at Rameses in the land of Goshen, Moses marched them to Succoth, a little to the northeast, and then—instead of continuing on in the general direction of Palestine—he turned southward, led them down the western side of the Bitter Lake, and on toward the site of the present city of Suez. At some place whose location is not definitely known, he crossed the intervening water and arrived on the shore of the Sinai Peninsula but well to the north of its mountainous tip.

Prodigies are said to have accompanied this exodus from Egypt. The Pharaoh is said to have repented his hasty decision to release the Hebrews, belatedly attributing the evils which had befallen to natural causes rather than to the magical power of Moses, and to have sent troops in pursuit. If troops were sent after the Hebrews, it may have been because those Egyptians who had loaned "jewels and raiment" to them had at last discovered that the borrowers were not intending to return to Egypt, that they were not going off for some three or four days to worship their god in the Wilderness as Moses had asked that they might do but were leaving permanently, taking their borrowings with them. Incensed at this betrayal of trust, this abuse of their kindliness and goodwill, they probably asked for aid in recovering their property, and troops were sent in response to their appeal.

If the Pharaoh had really decided to force the Hebrews back into Egypt, we may be sure he would have done it, for he had the power to do it. But he did not do it and the whole affair was such a minor matter in the annals of Egypt that no Egyptian record of it has yet been found. It may have been a

momentous occasion to the Israelites but it was a small matter to Egypt, which may well have been glad to be rid of this troublesome people.

The waters of the Red Sea are said to have parted to allow the Hebrews to cross over, and to have flowed back with such violence as to engulf the pursuing Egyptians. Explanations have been sought in the possibility of a tidal wave, caused by an earthquake, having provided opportunity for crossing; its returning water would close the way to any who came later. The account in Exodus (14:21) says a strong east wind blew all night, backing up the water as typhoons sometimes back up the current of a river. When the wind dropped, the water would quickly return to its former level.

The place of fording has been sought in especially shallow parts, also. But all these are unimportant to us now. And we may assume the growth of legend to have magnified the event out of all proportion, for much the same thing is said to have occurred when, at the invasion of Canaan under Joshua, the Jordan had to be crossed. One story may be the echo of the other, and quite possibly there was nothing miraculous in either event as it actually occurred.

Perhaps troops did pursue; perhaps they actually overtook the Hebrews; perhaps they were content to merely recover the stolen property and let the stealers go. The exaggerated apprehensions of the guilty Israelites may well have seen this as a miraculous escape from a worse fate and magnified it accordingly, though one of the wonders of the Biblical account is its impartiality in narrating good and bad with equal candor.

What does interest us here is Moses' choice of a route to his Promised Land. From Succoth, the direct way lay north-east. But the powerful and warlike Philistines lay between, and it is plainly stated that the Israelites were not yet a people able to fight their way through, with or without divine aid. Hence the southern detour was advisable. Although it is God who explains this avoidance of contact with the Philistines by saying: "Lest peradventure the people repent when they see war, and return to Egypt" (Ref. 14), we may be sure that it was Moses

who worried about it. Divine power could, of course, sweep the Philistines (or any other people) aside like chaff before the wind, but Moses was not, at this stage, counting upon it.

There is another explanation for this wide detour and probably a truer one. For Moses must have seen, long before he returned to Egypt, that the task, if he undertook it, would divide itself into three parts. The first was accomplished when he led the Hebrews out of Egypt. Then came the second part. And it is probable that, even if Moses might have marched unopposed directly to the Promised Land, he would not have done so but would still have taken the roundabout course he actually did take.

Moses' own work would enter its third and final stage when he saw the Israelites safely settled in Canaan. Then, with territory of their own, they would be a nation. But it was Moses' set purpose, the great object of all his work, to make them a different kind of nation. And they would not be that unless he could mold them as he desired, instilling into them the ideas and ideals, the national psychology, he had conceived for them. If he were to mold them to the pattern of his mind, he must do it *before* they were settled on the land. For, once that occurred, they would begin to pass out from under his influence; his power would steadily decline; and it would be too late to operate the molding process.

Therefore, the second step was not to settle the people on the land of his promise but to work upon their mass psyche with all the power at his command. And well did he know how great an effect the terrifying scenes through which he would lead them would have. He himself had experienced it: he knew it at first hand.

Far from the Promised Land; in a region where any approximation of the kind of life they were accustomed to even as slaves was impossible; absolutely dependent upon his guidance and leadership; softened by the terrors of the Wilderness, the wild and savage land such as they had never seen before, they would be at his mercy as they never would be again. All this Moses knew, and he intended to take full advantage of it.

Deliberately, he planned it, and purposefully he carried out his plan. And this, we may be sure, was the real reason for that southern detour which took them clear down to Mount Sinai, rising some 7,000 feet, the highest point of that rugged land.

On the march to Sinai, Moses encountered many difficulties.

At Marah, the only water they had to drink was so bitter that none could swallow it. But Moses knew a tree the sap of whose branches, cast into the pools, would sweeten the water and make it potable, probably by precipitating the bitter principle (alkali?) by chemical action. Without Moses, the people would have died of thirst.

At the wells of Elim, they rested awhile and then marched on. But now they had been eating nothing but fish and the flesh of their sheep and cattle (Ref. 15), and they did not take kindly to this new diet. They remembered the bread and the vegetables of Egypt, and they cried out against Moses. Then he showed them how to gather that exudation of the tamarisk which they called manna, and which (says Milman) was long afterward still to be bought of the Arabs as an article of commerce. This addition to their fare appeased them for a time.

When they came near to Mount Horeb, there was no water at all, and again their complete dependence upon Moses was demonstrated. For Moses saved them by striking the solid rock with his staff and causing water to gush forth, giving them drink. How great a miracle did Moses then perform! But African medicine men are able to duplicate it today, and American scientists report having seen it done in the Serrengetti Plains. (Ref. 16)

Water, from surface seepage, appears to collect in certain rock formations in sizable pockets whose presence the medicine men are able to detect, and, by sounding with their iron-shod staffs, to release so that it flows out and can be drunk. Moses, in his role of magician, apparently knew the signs by which such hidden reservoirs of water are made known to the instructed, and used his knowledge to perform a miracle by making water flow from the seemingly solid rock, to the astonishment of his people and the enhancement of his own

prestige. And doubtless he did not regret this opportunity to display his power. Rather must he have welcomed it. For he needed a miracle or two to forcibly impress upon his people how greatly they depended upon him as leader. He may even have contrived such an occasion to bring it home to them with startling effectiveness.

With Moses holding steadily to his predetermined line of march, the Hebrews in due time arrived at the base of Mount Sinai. And presently there occurred another of those incidents which so clearly show that Moses depended on purely human means and that there was little or no divine guidance or control.

It was while they were encamped at the foot of Mount Sinai, freshly arrived at that place, that Moses' father-in-law, Jethro, visited them, bringing with him Moses' wife, Zipporah, and their two sons, who (we now learn) had been sent back from Egypt. Jethro also brought his own son, Hobab. It was a happy reunion.

Jethro soon noticed that Moses was kept busy all day long in hearing and settling disputes which arose among the people, leaving him time for nothing else. Ever since they had left Egypt, Moses had had this trouble to deal with. No longer supervised by Egyptians task-masters; no longer set to work by labor bosses who told them what to do and saw that they did it; free almost to do as they liked with their time but harried by the demands of a strange and irksome way of life, the people fell into contentions, one with another, and quarrels frequently arose, often over mere trifles but which, in their overwrought condition, could grow into violent disputes. Moses had his hands full. And, by the time they reached Mount Sinai, he was almost in a state of nervous prostration. Jethro saw this at once. And—true chieftain and leader of men that he was—he saw that something had to be done about it, and he knew what it was.

He told Moses plainly that what he did was not good, either for him or for the enterprise, and he gave Moses sound advice. Moses—said Jethro—must organize the people into groups: squads, platoons, companies, and regiments (as it were), with

leaders over each group who could handle the details of everyday affairs and leave him free for larger matters. Only what was too difficult for them to settle was to be taken to Moses himself for judgment. Thus he would be relieved of that heavy burden and have time to teach them "the way wherein they must walk, and the work that they must do."

"So Moses harkened to the voice of his father in law, and did all that he had said. And Moses chose able men out of all Israel, and made them heads over the people, rulers of thousands, rulers of hundreds, rulers of fifties, and rulers of tens. And they judged the people at all seasons: the hard causes they brought unto Moses, but every small matter they judged themselves. And Moses let his father in law depart; and he went into his own land." The whole story of this incident is told in the eighteenth chapter of Exodus, verses 24 to 27 of which are quoted above.

Is it not remarkable and highly significant that God, who is represented as being responsible for this whole enterprise, having commanded Moses to begin it and placed him in charge, should not have told Moses what to do at this time? For, as Jethro could see at once, the project stood in such peril that it was sure to fail unless the inadequacy of Moses as leader was remedied. Was God willing to see it fail?

Of course, it can be argued that it was God who sent Jethro to give good advice and so saved the situation. But it can be asked in rebuttal: Why did God let matters go to such an extreme? Why did he not interfere sooner, saving Moses and the people so much anguish of spirit?

If, on the other hand, we see the reported "talkings with God," which repeatedly occur, as merely accounts of Moses' own communion with his inner self, we have here an explanation of why nothing was done to relieve Moses of this onerous burden before Jethro arrived. For Moses had no experience in leadership to fall back on, no accumulated store of precedents to recall and sift for a solution that would fit the case: there was nothing to commune with. Moses was not yet an able leader; and, although one would think that, in his situation, the

necessity for appointing able lieutenants would occur to him, the fact is that it did not, as the narrative shows. Hence there was—there could be—no "talking with God" on this occasion. It was not God but Jethro who told Moses what to do. And if he had not, conditions might have deteriorated to such an extent as to end the enterprise then and there.

This negative evidence of the true character of the reported "talkings with God" as being self-communings, representing mental debates between Moses' objective and subjective minds, is of no little importance to this interpretation of Moses, for it has high confirmatory value.

Moses, however, was quick to learn. He had now arrived at Mount Sinai with his people. And he had long ago clarified in his mind what he must do at that place. As soon as peace and tranquility had been restored through the system he had instituted as Jethro had advised, he set about it. Now the "talkings with God" become plentiful, and Moses rapidly develops into a master workman, an expert in stage-craft and showmanship. Even the smoke and fire of the flaming volcano, the thunder and the lightning that played about its top, he employed to soften and subdue his people. And there, while (as Milman says) he held them in the hollow of his hand, he gave them their constitution and his law.

CHAPTER XX

THE GOLDEN CALF

When the Hebrew camp had been pitched at the foot of Mount Sinai, the crucial hour to which Moses long had looked forward had at last arrived. Now he did, indeed, have a labor to perform. The people were as putty in his hands and he must work upon them with all the skill at his command, using every device and artifice he could employ. All his hopes lay in the success achieved in what he now must do: mold the people's mass mind and cast it into a shape it would retain, giving it a direction from which it would never depart.

His first act was to endow the mountain with mystery, fencing it round about with prohibitions. The people were forbidden to ascend it, being required to remain at its base under the threat of heavy penalties. With Aaron, some seventy of the elders, and Joshua (his personal aide, minister, or assistant), Moses led the way upward. Having climbed but a short distance, he bade them go no further. Then, taking only Joshua with him, he went on. And on the mountain's top, amidst the thunder and the lightning, the smoke and fire of that fearful place, he stayed some "forty days," communing with his God.

That is to say, he remained there an indeterminate but rather extended length of time as measured in days. For the number forty, as used in this way, seems to have such a connotation all through the Bible, indicating a vague rather than a definite interval of time, whether in days or years. In this case it is measured in days; in others, it may be in years. But in all cases, nothing more than a rough approximation is intended.

During his "forty days" on the mountain's top, Moses made good progress in reducing his ideas to ordinances, rules, and precepts whose general purpose was to create for his people a

way of life centered about an impressive ritual and fixed in customs that would establish it at once and hold it unaltered through successive generations.

Toward the end of his stay, he formulated his famous Ten Commandments, which (says Breasted) are addressed to house-holders, being in the second person: "thou." For it was as citizens and house-holders that Moses envisioned the future state of his people. The Ten Commandments, however, are of a lesser category, being secondary to those two which the Christ was later to proclaim as primary, saying that on them "hang all the law and the prophets." (Ref. 17) Both sets are, indeed, personal in application. But the latter are of the larger spirit and have not only a communal but also a national and even an international scope, whereas the former ones relate specifically to individual conduct.

Having carved the Ten Commandments on two stone tablets, Moses prepared to return down the mountain. As he and Joshua (who had stayed apart, a little lower down) began their descent, they heard the clamor of a great commotion in the Hebrew camp. Joshua cried out to Moses that it was the noise of war. But Moses, coming on behind and farther off from it than Joshua, knew it at once for what it was—neither the shouts of triumph in battle nor the cries for mercy of the defeated, but the sounds of barbaric idol worship. And Moses' ear was the keener and the truer, for it was sharpened by apprehension. What he had feared in secret had openly come to pass. And as they drew near the camp, he saw that it was so.

The people, including even Aaron, had grown weary of worshiping an invisible deity and had demanded one they could both see and touch. With gold contributed for the purpose and under Aaron's supervision, they had made themselves an idol which they proceeded to glorify with singing, shouting, and dancing as they bowed down to the Golden Calf.

As Moses and Joshua, filled with apprehension, hurried down from the mountain, with Joshua speeding on in advance; and as the certainty that his people had turned to image worship

grew in Moses, hot anger and a rage of indignation flared up within him.

The story is narrated in the thirty-second chapter of Exodus and is repeated by a different writer in the ninth chapter of Deuteronomy. That it should have been retained in the sacred writings of the Hebrews, where it is told without reservation or apology of any kind, is one of those marvels of the Mosaic Books which convince of at least the honesty of the narrators, who usually make no attenmpt to winnow out the bad and leave only the good. This characteristic is especially valuable to those who wish to know the true story of Moses.

He is shown at this crucial time as communing with God, even arguing with him, and God makes proposals which Moses rejects, pleading with God to overlook the defection of the Chosen People. So persuasive is Moses that they are restored to God's good graces. Although they are severely punished, they remain the Chosen People, and it is entirely due to Moses that they do.

Moses' talking with God on this occasion is an illuminating example of his self-communion. It shows him weighing the factors of his dilemma as he seeks a way out and determines upon a course of action. Through this one, we are able to enter the very mind of Moses and see it at work.

The problem now debated between Moses and his inner self is what he shall do when he finds his people turning away from the God he has given them and resorting to idolatry. He has now had enough experience with the Hebrews to know that they not only have the pusillanimous spirit of the slave, acquired during their Egyptian captivity, but are also a captious people, "stiff-necked" and contentious, as he repeatedly reminds them. He forgets that he has caused them constant irritation by interfering with, if not absolutely prohibiting, customs and habits to which they have become devoted through long practice. How much he has checked them we do not learn until much later in the story. However, what is made clear by the story is that, at this time, Moses was assailed by a great tempta-

tion, and that—even before he had reached the mountain's foot—he had analyzed and rejected it.

The nature of this temptation is of great significance to this interpretation. It is that he shall abandon the Hebrews and leave them to their fate, substituting another people for them in the carrying out of his experiment. It is not a question of abandoning the enterprise itself, but only the Hebrews as his instrument for conducting it.

One would think that, in the circumstances, each went with the other, and that if Moses cut himself off from the Hebrews he would have to abandon the enterprise as well. But it is not so, for an alternative presented itself to the mind of Moses and it was one with great attractions.

What alternative could Moses possibly have? He had settled upon the Hebrews only after the most careful consideration of all the peoples known to him. None of them had seemed suited to his purpose; or, if suitable, they were not available as possibilities. And he was on the point of giving up all thought of doing anything to give his idea embodiment when, by the merest chance, he happened to remember the Hebrews, held captive in Egypt. They, and they alone, appeared to meet his requirements and offer opportunity to make the attempt. And so it was to them that he had turned. It would seem, then, that Moses had no alternative: if he abandoned this people, it meant abandonment of the whole project.

Yet an alternative did present itself to the mind of Moses, and it was (to repeat) attractive, indeed. Let us look at the story as it is told in Exodus 32, verses 9 to 14.

"And the Lord said unto Moses, I have seen this people, and, behold, it is a stiff-necked people: Now therefore let me alone, that my wrath may wax hot against them, and that I may consume them: and *I will make of thee a great nation.* And Moses besought the Lord his God, and said, Lord, why doth thy wrath wax hot against thy people, which thou hast brought forth out of the land of Egypt with great power and with a mighty hand? *Wherefore should the Egyptians speak, and say, For mischief*

did he bring them out, to slay them in the mountains, and to consume them from the face of the earth? Turn from thy fierce wrath, and repent of this evil against thy people. *Remember Abraham, Isaac, and Israel,* thy servants, to whom thou swarest by thine own self, and saidst unto them, I will multiply your seed as the stars of heaven, and all the land that I have spoken of will I give unto your seed, and they shall inherit it for ever. And the Lord repented of the evil which he thought to do unto his people."

The parts most significant for the purposes of this book have been italicized in the above quotation. From the first of them we learn the nature of the alternative that arose in Moses' mind. It was simply that he himself should father a tribe and found a people, waiting until *his own descendants* should be numerous enough for him to make a beginning with them.

While such an idea may seem preposterous to us, we must remember that that was the patriarchal age. Already, Moses had two sons, Gershom and Eliezer, and we learn that he had taken or soon would take a second wife, an Ethiopian woman. (Ref. 18) Monogamy was not enforced by either law or custom: he might have as many wives as he could support. Jacob was the father, by four different women, of the twelve sons whose descendants the Isralites were. But it seems that Jacob had other children, for we read that "all the souls that came out of the loins of Jacob were seventy souls . . ." (Ref. 19) And that count omitted Joseph, who made it seventy-one. In Egypt's land of plenty, the Hebrews had multiplied rapidly despite the harshest of repressive measures. So it was not so wild a thought as it at first appears. It had the attraction, moreover, of making Moses himself the father of the tribe in every way, and he would, therefore, be able to train all its members from earliest infancy as he chose.

But Moses could see that even with early and polygamous marriages, more years would be required than he, a mortal, could afford to wait. By the time his own descendants would be sufficiently numerous, he would be an old man and too feeble

to lead such an undertaking. Also, as the other italicized portions show, he remembered the boastings he had made to the Egyptians about the power and the might of the god whose name he used, and the stories he had told the Hebrews about Abraham and Isaac and Jacob. What would the Egyptians say of Moses himself if he, having taken the people out of Egypt, should abandon them now?—to death by starvation, in all probability. With ribald laughter they would point the finger of scorn at him. It touched his personal pride. But also, what would become of the name of that god of whom he had boasted? Would it not become a scoffing forever, and all the gods that Moses might proclaim, this one or some other? And the people —could he leave them leaderless now, in this wild and savage land to which they even yet were strangers? Had he no responsibility there, no compunction, no pity for them?

Such were the thoughts that must have flashed through Moses' mind as he hurried down the mountain. It was a temptation, indeed, but he harkened not to its appeal. No! He must continue the work as he had begun it, staying with the Hebrews and doing the best he could with them to make his dream come true. That was his decision, his repentence of "the evil which he had thought to do unto his people."

Yet he could not control his indignation when he reached the camp and saw that gleaming idol. In a paroxysm of rage he hurled the stone tablets to the ground, smashing them to bits. And he poured the vials of his wrath upon Aaron and the people without mercy, humiliating all of them and inflicting the penalty of death on the contumacious. Then he moved the camp from that unhallowed spot. And presently, his anger appeased and his confidence restored, he returned to his work, reascending the mountain and, in the course of another "forty days," completing his formulation of the covenant and his law. So well did he succeed that, when he came down again, his face shone with the glow of victorious accomplishment.

But Moses did not forget the lesson of the Golden Calf. If something visible and tangible was required to satisfy the

people, they should have it. And so he caused the tabernacle to be built, a thing of beauty on which they could lavish all their art and skill, giving them work to do with their hands. He even set the women to spinning and weaving cloth for it, "both of blue, and of purple, and of scarlet, and of fine linen. And all the women whose heart stirred them up in wisdom spun goats' hair." (Ref. 20)

The importance of his whole incident to this interpretation is that it demonstrates almost conclusively that it was the accomplishment of his great experiment that stood foremost in Moses' mind, and *not* the Hebrews as a people. For he was willing to leave them, to abandon them entirely, and substitute another people—any people—if it would serve his purpose. It was not a particular people that he required but simply *a* people, and any suitable one would do. That he continued to use the Israelites was not because of any virtue peculiar to them but for reasons to which their origins had no relation whatever.

The promise: "I will make of thee a nation mightier and greater than they," as it is given in that second statement of the law, Deuteronomy (chapter 9:14), is so similar to the phraseology of the reported promises to Abraham, to Isaac, and to Jacob (Ref. 21) that there can be no doubt as to its meaning. Hence, the statement made above relative to an alternative having presented itself to the mind of Moses and the character of that alternative seems fully justified.

This revelation of the position of Moses relative to the Hebrews is one of the principle bases on which this interpretation of him is grounded. And its argumentative value is doubled by the fact that the same temptation came to Moses again in completely different circumstances but when, once again, his disappointment was almost more than he could bear. Again he rejected it, and for the same good reasons, as we shall find in due course.

In this connection, some comment on the statistics of the Mosaic Books may be of interest. For it seems that if the Hebrews "sojourned" four hundred and thirty years in Egypt,

they had a longer time in which to increase numerically than some of the statements made seem to indicate, from which one gathers that they multiplied rapidly despite their harsh treatment. There appears to be no way to check the length of the Egyptian captivity with any reasonable accuracy, but the census figures given in Exodus and Numbers seem preposterous.

At the exodus, the Hebrews are reported as "about six hundred thousand on foot that were men, beside children. And a mixed multitude went up also with them; and flocks, and herds, even very much cattle." (Ref. 22) Not only does this listing of flocks and herds and very much cattle appear contrary to the implication of harsh treatment by the Egyptians, but the size of the population itself presents difficulties. It would, for example, take a long time for such a procession to cross over the Red Sea at any point, however easy of passage. And the loss of over 600,000 male laborers in a body ought to have created more of a stir in Egypt than the records indicate.

Then, when the tribes were numbered just prior to the departure from Sinai, they are shown as having 603,550 men "able to go forth to war," (Ref. 23) implying a much greater population if women and children were counted. One may recall the story of Alexander the Great and his architect, Dinocrates, who, when Alexander proposed to build a city commemorative of himself, suggested a site on Mt. Athos. When Alexander sarcastically asked what the inhabitants would live on, Dinocrates naively answered that he hadn't thought of that. Whereupon Alexander smiled and ordered the city built on its present Egyptian site. So we may ask what a society able to put over 600,000 warriors in the field would expect to live on—in the desert! The census figures seem as naive as Dinocrates was. And we may be sure that Moses had no such populous society in mind when that temptation flashed through his thoughts and was so quickly rejected. Yet, even so, it was a temptation, and one with great attraction. The high moral courage of Moses was no inconsiderable factor in its rejection.

Thus it appears that it was Moses' determination to carry on with the Hebrews as his instrument despite difficulties and discouragements that made and kept the Israelites the Chosen People.

But if ever they were a Chosen People, they were the Chosen People of Moses.

CHAPTER XXI

THE SPIRIT OF THE LAW

In such a book as this, it would be as much out of place to inflict upon the reader a learned dissertation on the Mosaic Law in all its details as it would be beyond the capacity of the present author to attempt it. Some general observations relative to it may, however, be made, if for no other reason than to do justice to Moses by showing that his law was far, indeed, from being just a *lex talionis,* a law of retaliation pitilessly demanding eye for eye and tooth for tooth.

Such provisions for fitting the punishment to the crime in kind and degree of injury do, indeed, occur. But they seem to be confined to offenses which Moses must have considered especially heinous, evoking his characteristic righteous indignation. Thus, in Deuteronomy 19, verses 16 through 21, the *lex talionis* is invoked in cases of the bearing of false witness against the innocent. Then the injury caused was to be inflicted upon the plotter of it, after the victim's own freedom from guilt had been established.

The bearing of false witness seems to have been particularly abhorrent in Moses' eyes: his condemnation of it stands as the ninth of his commandments. And he—aware of how prone third parties are to forget the crime in pity for the criminal, arguing that "two wrongs do not make a right," or that "what is done cannot be undone"—sternly forbade mercy, requiring strict enforcement of the penalties. If it seems cruel to us, we must remember that that was an age of cruelty and that Moses, however mistakenly, was endeavoring to make it less so.

The Mosaic Law had one grand purpose: to implement the compact or covenant with God which was to stand as the nation's constitution. In return for their dedication of them-

selves to him and him only, God was to give the Chosen People the Promised Land, assure them its continued possession, and heap upon them all the blessings of prosperity of every kind. Conversely, upon their rupture of the covenant, every sort of evil was to be visited upon them. If they stubbornly persisted in their recusancy, the land was to be taken from them, they were to be scattered abroad, and their existence as a nation was to cease. Such, in brief, was the general nature of the covenant with God, the constitution of the nation.

The implementing Law is noteworthy in several respects. Those which seem especially interesting and instructive, as well as pertinent to this interpretation, are discussed below under specific headings.

A. Political. Perhaps the most striking peculiarity of the Mosaic Law as it has come down to us in the Bible is that, although given a people about to become a nation and for that very reason, it is completely void of provision for a political frame-work on national lines. The only indications of how Moses expected the Hebrews to be organized politically are found in some vague allusions and the practice actually followed.

Thus, the people were organized into patriarchal tribes before the departure from Sinai, as they seem to have been even in Egypt, Moses' immediate purpose apparently having been to give them a stronger military formation in preparation for the invasion of Canaan. Then, when that country should have been conquered, it was to be partitioned among the tribes by lot and in proportion to their numerical size. Hence it appears that Moses intended to continue the gentile or phyletic system, analogous to that which Clisthenes instituted at Athens and which continued on through all the days of Athenian glory. In the Mosaic Books there are references to tribal princes, captains of tribes, elders, and "officers." But what particular significance such titles had, how they were acquired, and what duties, responsibilities, and privileges went with them does not appear. They can only be inferred from the terms themselves.

From the nature of the incipient nation's constitution (a compact with God), one might reasonably expect to find it

developing under Moses' direction into a theocracy of the most thorough-going kind. But such an expectation would be wide of the mark. For what did develop was a confederacy secured against priestly dominance, as we shall presently see. And it is quite within the bounds of the possible that Moses planned a confederacy in the hope that some form of democratic government would emerge from it, as actually happened at Athens but which did not eventuate in Palestine. (Our own Federal Union grew out of a confederacy.)

The view that Moses had such a hope finds support in the many provisions of his law which, by inculcating respect for the individual person, might well tend to encourage such an outcome. The probability would seem to be that Moses himself had no clear idea of democratic government but was groping toward it. For, if he had such a hope, it was just a hope and not a definite expectation. Yet it is plain that he considered even so weak a tribal union as a confederacy preferable to monarchy.

Knowing his people, he could foresee the failure of his experiment as they departed from his teachings upon the removal of his influence by his death, and he voiced that fear. But, out of affection for them nevertheless—because (as he said) he had carried them in his bosom as (in the Near East) a father carries a child—he strove to guard them even in their defection by prescribing the manner in which a king should be chosen if and when they desired one. Then, in that event, they were to take one from among themselves and not from abroad. (Ref. 24)

Surely, had Moses considered the monarchial form of government superior, he would have instituted it by law before his death. That he did not do so would seem to demonstrate that he looked upon a change from confederacy to monarchy as a regressive and not as a progressive movement.

Thus we see the great Lawgiver laying at least the groundwork for democratic government, and—if not himself clear as to just how such a government would operate—opening the

way for its emergence ages before it finally appeared on earth.

In this connection we may recall (see Chapter XIV) that religious development in Egypt had already paved the way for the emergence of the democratic concept in the political field. For there the right to hope for a life after death in the blissful realm of the Sun-god, Re, which had at first been confined solely to the Pharaoh, had been progressively broadened until at last it was granted to everyone without exception, subject only to individual worthiness. Heaven was thus "democratized."

The relation between the spiritual and the political is and always has been close. It was from the political organization of national life that religion became institutionalized. It was as religious imperialism (as Breasted calls it) following upon political imperialism that monotheism arose, as it inevitably would, however the relation might be disguised by rationalization. For, when a nation having a tutelary god conquered the whole known world (as Egypt did under Thutmose III), that tutelary god *ipso facto* became a world-god, however slowly the fact received recognition and under whatever guise perception of it came to men. Similarly, but in reverse, the democratization of Heaven would sooner or later be reflected on earth, and in the political field. Since Moses had little or no interest in the Other World of religion, it does not appear impossible that he should have felt that there should be such a reflection, even though that feeling probably was an unconscious one and more of a refusal to postpone the enjoyment of happiness to some post-mortem period when it might or might not be realized. Especially might such a practical, such a here-and-now idea occur to a mind so powerful, so incisive, so *freed,* as that of Moses. The provisions of his law, discussed below, lend support to this view.

B. The land. By their covenant with their God, the Hebrews acknowledged that the land they were to occupy belonged to him. He could confirm them in possession of it or dispossess them, and his action in that respect was to reflect their own observance or non-observance of the compact. By the

implementing law, the land was to be apportioned among the tribes as already described. Each tribe was then to distribute its holdings among its members, who thus became the original owners. But "the curious agrarian law" (as it has been called) made the transfer of title to any other than the descendants of the original holders illegal. Land could be leased but not sold. And no lease might extend beyond the next succeeding jubilee, or fiftieth year from the first partition. At the jubilee year (each fiftieth year), all land was to revert to the original holders or their descendants, including women in the absence of male heirs.

It has been suggested that the purpose of this system of land-tenure was to prevent the rise of a landed aristocracy and the evils attendant thereon. But this hypothesis is open to the objection that such prescriptions can usually be circumvented and rendered ineffectual, as Moses must have known, while even greater evils would almost certainly result from the decline in rental value as each jubilee year approached, as well as from a natural tendency to "rob" the land when the user of it knew he was soon to have to leave it, or pay a higher rate for renewal if he improved it. It seems more probable that Moses sought to encourage the development of a yeomanry which would give strength and stability to the nation. Inability to alienate land would also tend to preserve that racial homogeneity which Moses seems to have valued so highly.

Moses—himself neither theoretical nor practical agriculturist—seems to have had Egypt in mind. For he appears to have realized that his people would have to depend on rainfall rather than on irrigation for water for their crops. At that time, irrigation in mountainous or hilly country does not seem to have been considered feasible, but Moses promised that rain would fall both in sufficient quantity and at the proper seasons. And, since there were no great rivers to inundate the land, erasing landmarks and boundaries, he did not provide for an annual allocation but distributed it permanently at its first partition. He thus seems to have adapted the Egyptian system to Palestine as best he could, providing for private ownership

but retaining the national basic title feature. Whether or not he realized the good and bad effects that would flow from his system is a moot question. Yet the development of a yeomanry and the preservation of racial homogeneity, at least in the early stages of the nation's life, were features which would tend to favor the emergence of democracy in some one of its several forms.

C. The priesthood. One of the most striking features of the Mosaic Law is its provision for the institution and maintenance of a priesthood.

Since the constitution of the nation was a compact with its God by which it was dedicated to his service, it might well be expected that the religious element would take precedence over all else, placing the whole life of the nation under its dominance. But such was not the case. On the contrary, measures were taken to restrict the power of the priesthood and prevent its rise to dictatorial supremacy. This may well have resulted from what Moses had seen in Egypt, where the priests had attained such an ascendancy as to enable them to dictate even national policy to the Pharaoh, who had become merely their tool, and with whose rise to power the final decline of Egypt began.

While Moses could not, of course, have anticipated the history of Egypt with precision, it remains a curious fact that whereas the Egyptian priesthood owed its rise to power to its use and unrestricted abuse of the people's faith in magic (abuses later paralleled in Medieval Europe), Moses forbade magical practices of every kind. The fate of Ikhnaton's (as Professor Toynbee would say) "creative minority" in its contest with the priesthood's "dominant minority" may well have served Moses as a warning. Ikhnaton strove to inculcate monotheism; Moses did not, except in the limited sense of worshiping a single, tutelary god while acknowledging the existence of others. (For, as Breasted points out, the God of Israel had a personal name just as other gods did, personal names being necessary for differentiation.) After Ikhnaton's death, the

Egyptian priesthood had done all in its power to erase his name from the public monuments and his revolutionary ideas from the memory of the people, as Moses may well have learned from his privileged instructors in his earlier days.

Having no interest in the Other World of religion; possessing a mind which had liberated itself from the hypnotic power of that kind of faith; striving to inculcate and perpetuate his own revolutionary ideas but with the example of Egypt before him, Moses circumscribed the power of priests and banned all resort to magical practices. He even forbade indulgence in that custom so dear to the Oriental heart of self-disfigurement as a sign of mourning. And that he went much farther than that we do not learn until later in the story, and then only by inference.

The nation's life was nevertheless to be centered around a system of festivals and commemorative celebrations which would speedily establish a national ritual and perpetuate a national tradition, both of which are highly important to the life of a nation yet in the former of which, especially, democracy (and democracy alone) is singularly and deplorably deficient.

The principal office of the priesthood as constituted by Moses was to conduct the national ceremonies, in addition to reading the whole of the Mosaic Law to the people at stated intervals. Instead of leaving the composition of the priesthood to chance and inclination, through which it might (and in other lands sometimes did) reflect the lust for power, Moses separated the tribe of Levi and consecrated it to the priestly office, so making that office hereditary. To maintain twelve fighting tribes, the tribe of Joseph was then divided into two half-tribes, Ephraim and Manasseh. And the tribe of Levi, instead of participating in the division of the land, was given forty-eight cities with their suburbs. Among these cities, six were appointed as cities of refuge where, under specified conditions, sanctuary could be sought and safety be assured. It was the revenue derived from their forty-eight cities that was to support the Levites, who

would thus be maintained in independence and dignity without having to levy upon the people or beg for contributions. Thus they would be able to devote themselves entirely to the study and the observance of the Mosaic Law.

Celibacy was not a priestly obligation. Rather were the Levites to perpetuate their tribe by marriage and procreation. Marriage itself was a civil ceremony.

Thus we see Moses deliberately securing his people in freedom from that priestly dominance which, in other lands, among other peoples, and at all times, has been a constant threat to liberty and sometimes an insufferable economic burden.

In a nation constituted as was that of the Israelites, and for that day and age, these precautions of the great Lawgiver stand forth as testimonies of a truly remarkable intellectual achievement.

D. Slavery. Those whose only acquaintance with the Mosaic Law is through hearsay and who have understood it to be notable principally for its savagery will hardly credit it when the statement is made that, in the whole Bible, the only voice raised against slavery is that of Moses. In this, his giant figure towers forth spectacularly.

In that age, slavery had not yet been commercialized as it was later to be when a lucrative trade in elephant tusks developed and the extra profit from the sale of Negro porters, forced to carry them on their shoulders all the weary way to the coastal ports, revealed the potentialities of Africa as a supplier of what was therefore called "black ivory." But already the value set upon slave labor was great, for slaves were the motive power of a machineless age. And, as war was then universally waged, slavery (except for the high and mighty, who could redeem themselves by ransom) was the sole alternative to instant death. While, in time of peace, a man might sell himself or members of his family into slavery, the principal source of supply was war, and the boon of slavery was its tenderest mercy. In the time of Moses, slavery was already an ancient institution, recognized everywhere by law and by custom.

Moses, intent upon embuing his people with respect for human life and the integrity of the individual person—the very cornerstones of democracy—could not bear the thought of members of his nation being reduced to slavery with its bodily and spiritual indignities. He might hardly expect to stamp out entirely a practice so widely and so firmly established. But he could hope to at least mitigate its severities and even to set a limit upon its term of duration. With that object, he not only forbade cruelty to slaves but also provided that no Hebrew should be held in slavery more than six years. Only those Hebrews who, having been offered freedom, refused it, were to be held longer, and they were to have their ears bored in sign of perpetual servitude.

The provisions of the law relative to slavery as they are given in Leviticus 25, verses 39 to 55, and in Deuteronomy 15, verses 12 to 18, are not in entire agreement. But the discrepancies are more matters of detail than of principle. And it is from Leviticus 25, verse 10, that the inscription on our own Liberty Bell is taken. In the fiftieth or jubilee year, Israel was to "*proclaim liberty throughout all the land unto all the inhabitants thereof*: it shall be a jubilee unto you; and ye shall return every man unto his possession, and ye shall return every man unto his family." Yet it is provided in verses 44 to 46 of the same chapter that strangers "of the heathen that are round about you," even children, might be kept in lifelong bondage.

Since Leviticus is of a later date than some of the other Mosaic Books, and seems to have been worked over quite considerably, some of the confusion relative to the law on slavery may be due to the interposition of other minds than Moses'. For a people that could keep slaves no longer than for a few years, and then only as hired servants, was at a disadvantage in commercial competition with peoples that could. The histories of Greece and Rome were to demonstrate that free labor cannot compete with slave labor in a machineless age. Perhaps the provisions laid down by Moses were too liberal to stand long unaltered. No sooner had Moses died than the Hebrews began

to depart from his teachings. If his ideas on slavery were found irksome and disadvantageous, ways to modify them would surely be found. Perhaps that is why there are provisions in the law as it has come down to us which deny to strangers the protection against slavery which, at least in their own country, guarded the liberty of Israelites.

Yet, even so, Moses' voice, raised against slavery as we know it to have been, was a voice crying in the wilderness such as is heard nowhere else in the Bible.

E. Humanitarianism. It is truly amazing to find that the Mosaic Law, given a people whom Moses himself intended soon to lead into one of the most unprovoked, savagely aggressive, and utterly merciless wars of history, should be permeated with the spirit of kindliness toward man and beast ("Thou shalt not plow with an ox and an ass together"). And yet, so numerous are provisions inculcating justice and brotherhood even toward strangers that it is impossible to do more here than to call attention to the fact.

Inasmuch as the Jews have repeatedly been charged with evincing a narrow, exclusive spirit after their return from their Babylonian captivity—not (says Milman) altogether without reason—the provisions of the Mosaic Law relative to strangers are especially noteworthy. In almost every way and with but few exceptions, aliens were to be treated exactly like the Hebrews themselves. They might participate freely in most of the national festivals and celebrations; dealing with them commercially, the Hebrews were to use just weights and measures; they might live in peace among the people and make offerings to the Lord. They were to receive the same even-handed justice in the law-courts. And Moses admonished that God "loveth the stranger, in giving him food and raiment. *Love ye therefore the stranger*: for ye were strangers in the land of Egypt."

How remarkable, how wonderful, to read this in "the writings of Moses"! This—from the hand of a one-time murderer in private life and a public leader who was deliberately planning murderous warfare even then! How can it be explained? For

explanation it does require, and badly. To explain it by interpretation of Moses himself is part of the general purpose of this book.

That Moses planned no career of conquest for his people as a nation may, perhaps, be found (as Milman suggests) in his ban upon the raising of horses. For cavalry, well supplied with mounts, was an essential arm of a military force operating in open country such as the plains of Mesopotamia and the Delta offered. By prohibiting horse-breeding, Moses aimed at crippling in advance the ambitions of would-be conquerors.

Apparently, Moses expected his people to vanquish Canaan and, having exterminated its inhabitants, to settle down in peaceful occupation, when they would soon become "a light to lighten the Gentiles" by virtue of their covenant with God and the operation of his own implementing law.

No iron curtain was to descend about them, fencing them off from the rest of mankind. Strangers were invited to visit Palestine and live in it if they wished, sharing in its blessings. Perhaps there was high policy in this, for especially through strangers might the glory of Israel be made known abroad and (as Moses hoped) a generous spirit of emulation be awakened in other lands. Then, as all began to work harmoniously together for the common good, his experiment would have justified itself in the only way it could.

Beautifully do the provisions of the Mosaic Law pertaining to strangers accord with the interpretation of the allegory of the tower of Babel given in Chapter VI.

F. Magic. How singular does it seem that, in the Mosaic Law, so filled with wisdom, in many respects so advanced, so enlightened, there should also be incorporated provisions perpetuating magical practices of the most primitive kind. For in this category must be placed the trial of women by ordeal to satisfy a jealous husband. So, too, must be the rites employed when Aaron and his sons were consecrated as priests: the touching of their right ears, right thumbs, and the great toes of their right feet with the blood of a sacrificial ram. And all the sprinklings and anointings with blood on various occasions and

for various purposes are of the same general category, together with the differentiations between "clean" animals that might be eaten and those "unclean" ones that must not be, including that once-sacred animal, the pig.

All these practices must have been so long established among the Hebrews (as among other peoples) that they simply could not be rooted out firmly and at once. Moses, though opposed to magical practices in general and banning all resort to them in the private life of the people, therefore let them stand and, by making public use of them, gave the penchant of the people for them an easing outlet. He availed himself of their influence to establish a ritual for his nation that would be impressive and powerful, doubtless in the hope that they would be outgrown as the intellectual caliber of the people rose. If so, it was a concession to the weakness of the people which, while perhaps unavoidable, was not without its dangers. For it might well prove to be the magical practices themselves, rooted as they were in humanity's first and firmest faith, that would survive, and not those advanced ideas with which they were so curiously mingled, and on the survival of which Moses hopes were placed.

Perhaps it was to guard against such an eventuality that Moses required the reading of the whole law at stated intervals. Sheer repetition might attract attention to what was novel, arouse inquiry as to why it was included in the law, and so lead to the perception and at last some understanding of his own high aims, implicit in the law.

G. The number seven. One can hardly read much of the Mosaic Law without becoming aware of the recurrence in it of the number seven. For it is a curious fact that that number is brought in repeatedly. Thus, there are the seven days of the Passover; the seven weeks of the Feast of Weeks; the seven days of the Feast of Tabernacles; the seven days of Levitical consecration, of testing for leprosy, of cleansing from contaminations of various kinds; the seventh sabbatical year; the seven sabbaths of years, followed by the fiftieth or jubilee year; the seven lamps of the altar and the seven-branched candlesticks.

And, of course, the seven-day week which—Babylonian in origin—is still used by us and is now common almost everywhere.

One needs to know but little of the story of humanity and of the vagaries of the human mind to realize how greatly man has loved to wrap various numbers in mystery. Three, seven, and nine have been especial favorites, but twelve, thirty-six, and one hundred eight are also highly esteemed. Whole philosophies have been erected on a numerical basis, while Auguste Comte's hierarchy of the abstracts sciences makes mathematics fundamental to all the others. And, when one considers such things as certain numerical patterns (three, five, seven) occurring not only in animals but also in plants, it is easy to see how particular numbers might acquire a powerful attraction, eliciting a kind of reverential awe. That they have done so from earliest times is certain, while modern science has found mathematics an indispensable tool. And so the question arises, has the constant recurrence of the number seven in the Mosaic Law any particular significance? Was Moses just enamoured of it, or did he use it purposefully?

It is hardly possible now to arrive at a conclusive answer. Yet it may be that there is a clue in the Mosaic cosmogony. There, the great Creator is represented as laboring for six days with his work of creation and resting on the seventh, which he sanctified. The period of creation is thus shown as extending over seven days even though the Creator himself does nothing in the last day but rest. The reason given for his having sanctified that day is, "because that in it he had rested from all his work which God created and made."

What then, was God tired? Or did he have such consideration for man as to provide him by example with a day of rest?

Fatigue is not compatible with the concept of God. And, as has been pointed out, the portrait of God drawn in the Eden story does not shown him as so greatly concerned with man's welfare as to wish him anything good except as man and nothing higher. That would not preclude a desire to provide mortal man with a day of rest, but it does not help in solving the

problem of the repeated use of the number seven in the Mosaic Law.

If, however, we take the God of the Mosaic cosmogony as representing the blind forces of Nature and consider man as a creature endowed with intelligence, will, and imagination—especially imagination—we may have the answer. For, as already stated (in Chapter XIV), Moses seems to have held that it is in the seventh creative day that man takes up the work of creation, beginning where the blind forces of Nature leave off.

It is on man that the burden of creation now lies. That is why it is, for man, a sanctified day. And Moses, having incorporated this idea in his cosmogony, took advantage of the opportunity offered when composing his implementing law to give the idea a heavy emphasis by repeatedly using the number seven therein. It must have been his hope that its reiteration would attract attention and, by coming to be associated with the seventh day of creation, further an understanding of the object of his great experiment.

That was to lift man out of the category of the blind forces of Nature and, by showing him what creative work he must perform and how he must perform it, give him, as force, both direction and the greater dynamic power resulting from knowledge. Then, working with the biological, sociological, and historical trends creatively, he would at last taste the fruit of the tree of eternal life through the greater life-span of his creations, the national and supranational organisms.

So read, the repeated use of the number seven in the Mosaic Law takes on a profound significance. Shining forth from the mind of Moses, it illuminates all those grand truths to which it alludes.

With these references to and comments on some of the more salient features of the Mosaic Law this discussion of it must close. That it was far indeed from being just a *lex talionis* should now be clear. And it is hoped that what has been said will make more acceptable this general interpretation of its author, Moses.

From the rich mine of the Mosaic Law have come not only the famed Ten Commandments but also those two which Jesus of Nazareth proclaimed as fundamental to all else. The first is found in Deuteronomy 6:4-5. It reads: "Hear, O Israel: *the Lord our God is one Lord: and thou shalt love the Lord thy God with all thine heart, and with all thy soul, and with all thy might.*" The second occurs in Leviticus 19:18, which reads in part, "*thou shalt love thy neighbor as thyself . . .*" From Deuteronomy comes the expression, "man does not live by bread only . . ." These—and many another familiar quotation from the New Testament—all derive from "the writings of Moses" and reflect the spirit of his law.

If, at times, there occur expressions which, in their fierce antagonism to other peoples, are incompatible with the benign spirit of the Mosaic Law, may it not be because the traditions of Moses, handed down from generation to generation by word of mouth before they were ever committed to writing, were gradually colored by the memorizers to more nearly accord with their own changing sentiments and those of their hearers?

For the unsuccess which Moses himself foresaw came to embitter the Hebrews and arouse in them feelings not countenanced by the true spirit of the Mosaic Law. Messianism (as the far earlier experience of the Egyptians with it had shown) is a product of disillusionment, when hope rises out of the ashes of pessimism. It wrote itself into Hebrew history as it had already done in Egyptian. But the pride and arrogance of the early Hebraic form of it are foreign to the ruling spirit of the laws of Moses.

CHAPTER XXII

MOSES' FATAL ERROR

Some thirteen months after the flight from Egypt, the Hebrew camp at Mt. Sinai was broken up and the march upon the Promised Land began. In all that time, Moses had been carrying out the second part of his program, working upon his people in a determined effort to mold them to the pattern of his mind, shaping their massed spiritual energy and giving it the direction he wished it to have. When he had completed that task to the best of his ability, he began the third part of his undertaking.

The Hebrews were now in the anomalous condition of possessing everything necessary to their existence as a nation except land. And land—the exercise of territorial dominion—was absolutely indispensable: without it there simply could not be a nation. For a nation is indeed an individual, an organism, a person. The exercise of territorial dominion is for it as for all individuals, all organisms, all persons, a *sine qua non*.

This was as clear to Moses from the beginning as it is clear in international law and practice today. That was why, even from the beginning, all his thoughts, his plans, his promises to his people, had centered upon his Promised Land. Now, therefore, he set about it to make his promise good, and, by establishing his people as a nation through dominion over territory, to realize his ideas and give them substance.

The march northward seems to have been accomplished without noteworthy difficulty or opposition, and, in due course, the boundaries of the Promised Land were reached. But then an unforeseen event occurred which, in its consequences, was to prove fatal to the enterprise.

Who was initially responsible for it cannot now be ascertained. But Moses, as leader and commander-in-chief, must bear

the burden of it. However it came about, the blame of it falls on him.

Moses—perhaps feeling the need for accurate information as to the state of affairs among the Canaanites, and on the details of the lay of the land into which they were about to march—either sent or permitted an intelligence unit to go on ahead and "spy out the land." The account given in Numbers 13 shows the group to have consisted of one man from each of the twelve tribes. Whether they were chosen by lot or otherwise is not clear, for the list of the tribal rulers given there differs from the list of princes in Numbers 1, and it was men of such rank who comprised the group. The fact that each tribe sent its own representative may argue that popular agitation was the primary cause of the precautionary action. Yet if the representatives were selected by the tribesmen and not by Moses himself, then Moses must have yielded to popular demand in an uncharacteristic way. Or, Moses may have chosen this method as being the one most likely to inspire his people, tribe by tribe, with eagerness to go on.

Be that as it may, the spies went forth, entered Canaan, appear to have gone wherever they pleased without let or hindrance, and returned safely to the camp. They brought back excellent reports of the land itself and carried with them proof of its fertility. But the account ten of them (all except Caleb and Joshua) gave of the numbers, stature, and warlike spirit of the inhabitants so terrified the Hebrews that they absolutely refused to begin the invasion.

Here again is proof of the inadequacy of Moses as commander of men. Once more—as in the early stages when he took upon himself all the burden of affairs until Jethro told him what to do—he was unequal to the exigencies of the situation. And now, alas! there was no nomadic chieftain to counsel him with good advice.

He had marshaled his people by tribes in a military formation. But he had not proved their valor. Whether they would fight and how well they would fight he did not know. For he had failed to "blood" his troops by pitting them against a

lesser foe in battle and so, by an easy victory, giving the men and their commanders battle experience and the flush of victory. Only once had his people fought a battle, and that was with the Amalekites at Rephidim, on the way to Sinai. They had fought none since, and that was too long ago to influence them now. If the craven spirit of the slave, acquired in their Egyptian captivity, now showed itself, the fault was not altogether theirs, for Moses had not properly exorcised it.

Having brought his untried army so near the enemy, exposing it to attack, there was but one thing for him to do. That was to open the attack himself, and at once, before the enemy should have time to organize his defense. But now his negligence in permitting the spies to spread their alarming reports made that impossible.

Why did he not have the spies brought into the camp secretly, at night, question them in private, and, discovering their own terror, hold them incommunicado and order the attack at daybreak? Or why did he not pretend that only Caleb and Joshua had returned, and let them speak, knowing they were not afraid? The confident tone of their voices, added to his own, might have aroused a fighting spirit in his people that would have carried them from victory to victory. But now, harkening not to Moses but only to the terror-stricken ten, the people refused to advance.

Here, on the very border of his Promised Land, Moses felt once more the great temptation which had come to him on Mount Sinai when the people had turned to idol-worship. Again it shook him to the depths of his being. We read the details of it in Numbers 14.

In the Hebrew camp, all was confusion. All night long the people wept and cried aloud. Moses and Aaron, backed by Caleb and Joshua, pleaded with them in vain, until the people threatened to stone them. Then Moses turned to the tabernacle, standing apart. 'How long will this people provoke me? And how long will it be ere they believe me, for all the signs which I have showed among them? *I will* smite them with the pesti-

lence, and *disinherit them, and will make of thee a greater nation and a mightier than they.*"

Disinherit them! Leave them; have nothing more to do with them! For it is not this people in particular but *any* people people that would serve. What matters is not which people it is but the plan, the project, the great experiment itself.

"I will make of thee a greater nation and a mightier than they"! Of thee, Moses! Wait until your own descendants are numerous enough, and make a beginning with them! It need not be so very long a time.

That was the temptation. As Moses had known it before, so did it come again, in the same shape and guise, for its appeal was strong. But again he reasons it out. If he abandons this people now, "the Egyptians shall hear it," and "they will tell it to the inhabitants of this land," and "then the nations which have heard the fame of thee will speak, saying, Because the Lord was not able to bring this people into the land which he sware unto them, therefore he hath slain them in the wilderness." And Moses reviewed the qualities of the God he had given them, how he is "long suffering, and of great mercy, forgiving iniquity and transgressions, and by no means clearing the guilty, visiting the iniquity of the fathers upon the children unto the third and fourth generation." (Here, in Numbers 14:18, as in Exodus 34:7, the qualifying terminal clause, "of them that hate me," does not occur.)

Arguing with himself as he had argued before, Moses refused to yield to the great temptation. He could not punish the living unto the third and fourth generation, but he came to a decision that was punishing enough. Sternly he ordered a return to the Wilderness, declaring that these people should wander therein until every man among them above the age of twenty should have died and left his bones in the desolation of the desert. Then, when none of that craven generation was left alive, he would bring them back and victory would be theirs.

Meanwhile, those terrified ten who had caused the rebellion died "of the plague." (Did Moses "liquidate" them?) Only

Caleb and Joshua "lived still." And when Moses told the people the fate of those ten, they were overcome with remorse. Early in the morning they either attacked the Amalekites and Canaanites against Moses' orders or were attacked by them. The Israelites were defeated, suffered heavy losses, and were forced to retreat.

For "forty years" they wandered in the Wilderness, meeting with various adventures and fighting numerous battles until a hardier generation formed the fighting strength of the landless nation. Then, once more, Moses led them out upon the plains of Moab, his people ready and willing at last to conquer his Promised Land.

But Aaron had died, and Moses felt that his own time had come. He assembled the people and addressed them at length, reviewing their history, recounting all that he had done for them, exhorting them to obedience of his law and the observance of their compact with the God he had given them, forcing them to renew the compact then and there, so that none could say it was with their fathers and not with them, and threatening them with the direst consequences if they violated it. Then, his spirit uplifted as he permitted himself to look once more upon his Vision, he broke into song, a song of jubilation.

The ecstatic moment passed. Ascending Mt. Nebo, he gazed out into the far-off purple haze where, over beyond Jordan, lay his Promised Land, that land his feet would never tread.

What thoughts must have been his, there in the solitude of the mountain-top!

Joshua had already been named his successor as leader of the people, and there was nothing more that he could do. The worn-out body was failing fast, for he had driven it hard. "So Moses the servant of the Lord died there in the land of Moab, according to the word of the Lord. And he buried him in a valley in the land of Moab, over against Bethpeor: but no man knoweth of his sepulchre unto this day."

How beautifully has the nineteenth century poet cast it into verse in her noble poem, The Burial Of Moses!

"By Nebo's lonely mountain,
On this side Jordan's wave,
In a vale in the land of Moab,
There lies a lonely grave.
And no man knows that sepulchre,
And no man saw it ere;
For the angels of God upturned the sod,
And laid the dead man there.

* * *

And had he not high honor?—
The hillside for a pall;
To lie in state while angels wait,
With stars for tapers tall,
And the dark rock-pines like tossing plumes
Over his bier to wave;
And God's own hand, in that lonely land,
To lay him in his grave; . . ."

(See Appendix I)

And if we cannot go all the way with either the tradition of the writer of Deuteronomy or the imagery of the metrical composition, yet may we well believe that the Children of Israel "wept for Moses in the plains of Moab thirty days . . ." "And there arose not a prophet since in Israel like unto Moses, whom the Lord knew face to face . . ."

But, alas! Those lost "forty years" while they wandered in the Wilderness exacted their toll, depriving the people of the guiding hand of the great Lawgiver with fatal effects, even as he had feared. Sadly he had said: "For I know thy rebellion, and thy stiff neck: behold, while I am yet alive with you this day, ye have been rebellious against the Lord; and how much more after my death? * * * For I know that after my death ye will utterly corrupt yourselves, and turn aside from the way which I have commanded you; and evil will befall you in the latter days; because ye will do evil in the sight of the

Lord, to provoke him to anger through the work of your hands." Yet he had persevered, for there was nothing else that he could do and be true to himself.

Why had there been no Jethro, no chieftain, to show him how to train men for battle and teach him how to win victory by the arts and stratagems of war, saving him that precious "forty years"? He knew nothing of war, for his soul was set on peace.

Even while he plotted war, peace was his grand objective—peace, in fellowship and goodwill toward all mankind; peace—when all the world should know and live by his precept: "Thou shalt love thy neighbor as thyself"!

"My doctrine," sang he in exultation, "shall drop as the rain, my speech shall distil as the dew, as the small rain upon the tender herb, and as the showers upon the grass: because I will publish the name of the Lord: ascribe ye greatness unto our God." (Ref. 25)

Not in thunderclouds hiding the lightning's bolt; not as a downpour and a torrent to sweep all before it, leaving destruction and desolation behind; but as "the small rain upon the tender herb, and as the showers upon the grass," gentle, refreshing, reviving, and nourishing the life, not destroying it. "My doctrine" and "my speech"—they would distill as the dew. For he would publish the name of his God, a Rock of Salvation for mankind. And peace, goodwill, and kindliness would reign throughout the world. That was his hope that would not die. That was his Dream, his Vision, and he was steadfast to it to the end.

He was the greatest of all the lawgivers of antiquity. They worked to correct and improve, and with material prepared and awaiting them. He started with nothing, not even a good name and a fair repute, for he was a renegade and a refugee.

Brought up as one born to the purple, he sought no personal glory for himself or for his heirs. With him no kingly dynasty began, for his thoughts were of his people and of mankind.

In an age of monarchy, he planned a confederacy, hoping against hope. He looked failure and defeat in the face, and went

on, undaunted. How mighty a faith was his! And when he died, no pyramid, no mausoleum, no marble slab, marked his burial place. But his name is monument enough: never will it pass from the memory of man!

PART IV

CHAPTER XXIII

FROM MOSES TO JESUS

No sooner had death removed the controlling hand of Moses than the Hebrews began to disencumber themselves of his influence. Crossing the Jordan under Joshua's command, they celebrated that event by immediately reviving the practice of circumcision. For we now learn with no little astonishment that none of the males born subsequent to the flight from Egypt had been circumcized! No reason is given for this abrupt and protracted abandonment of the practice; it is simply stated that it had not been followed and was now returned to. (Ref. 26)

This is one place in the narrative where it is less than frank. Not only is no adequate explanation given; the practice is referred to as if it were exclusively Hebraic, whereas it has been determined positively that circumcision was an ancient Egyptian custom. Since, however, the period of its suspension coincides exactly with that of Moses' dominance, it seems indicated that it was he who had stopped it. If this were indeed so, it is a fair inference that his ban upon circumcision was one of the reasons why Moses continued to find his people a stubborn people. For, as soon as he was dead, they returned to it, thereby proving that they had never forgotten it. And it seems probable that they had lodged frequent protests with Moses, without effect. Such determined action on Moses' part with reference to circumcision would lend support to this interpretation of him and his ideas and purposes.

Moses—if he wished his people to be an example to other peoples to the end that all might work together in harmony—

would sternly forbid any practice which might set his people apart. That he looked upon circumcision as such a practice seems indicated, and doubtless he included circumcision when he prohibited disfigurement, as we now recall with added interest that he did.

It may be objected, however, that if—by a strange error of fact—circumcision was held to be a peculiarly Egyptian custom not practiced by other peoples, the Hebrews would be different from one or the other in any case. If they circumcized, they would be like the Egyptians but unlike the others. If they did not, they would be like those others but unlike the Egyptians. Then why did Moses so sternly rule against it?

A possible explanation may lie in the fact that Egypt was the first and, up to that time, the only imperial nation to overrun, conquer, and hold in subjection the whole of the then known world. Circumcision supposedly would associate the Hebrews with the Egyptians and so with imperialism, whereas the designs of Moses were not imperialistic but contemplated a voluntary, not an enforced, cooperation, an international accord freely entered into, not imposed. Thus, the political organization Moses favored for his people was a free confederacy of lesser units, not a kingdom in which one man's will could be enforced on all. Accordingly, Moses endeavored to rid his people of any taint of political imperialism, even to the extent of banning circumcision. This may be why, in all the years of Moses' authority, no male Hebrew was circumcised.

But when, on crossing the Jordan, circumcision was reinstituted, that was proof of both rebellion against Moses and of how very little even Joshua understood him. Unwillingness to confess such rebellion would account for the failure adequately to explain the suspension of the practice. Yet one wonders why both that suspension of the practice and the return to it were not passed over in silence by the narrator. Was the consciousness of guilt too strong to permit such an omission, forcing confession in that form?

By their lack of comprehension of Moses' designs, the Hebrew

leaders and people doomed the great experiment to failure. But failure awaited it in any case. First, the world was not yet ready for such grand ideas: they were thousands of years ahead of their time. Second, while the location of the Promised Land was ideal from Moses' point of view (it being strategically situated and a commercial cross-roads of the world), that very location made it a battle-ground on which the civilizations to the east and the west of it were to fight for supremacy and, in so doing, grind the Hebrew nation to powder between them as corn is ground between an upper and a nether millstone. As Moses had seen, two equals in juxtaposition meant rivalry and competition: only a plurality of at least three could hope to bring harmony. Nothing but a nation equal in power to the two others could have resolved the essential duality of two equals and conduced to peace. But the Hebrew nation could never hope to stand on a par with the two others. Not only did it lack the man-power to maintain independence in that day and age of might; the very nature of the country itself promoted internal weakness by division.

Despite Moses' promises, the land received only winter rains. Even if irrigation were contemplated for that hilly land, it was impossible. Thus the Hebrews could not found an agricultural nation able to support a teeming population of any considerable size. Moreover, while the northern part, with its commercial and industrial towns, was prosperous and rich, the southern part was fit only for grazing. It is noteworthy that it was particularly from the latter section that many of the later Hebrew prophets came, condemning the luxury of the north. And when, in later times, the nation split into two parts, it was divided on these regional lines.

Unable to take any but the smaller Canaanitish cities; forced into relations with the people for commercial and other reasons, the invaders soon were conquered by the long established civilization they had overrun. They adopted the Canaanitish manners, customs, dress, and language, even finally acquiring the prominent aquiline nose of the non-Semitic Anatolians.

More especially in the northern section did this transformation occur.

By 1100 B.C., after its struggle with the Hittite Empire, Egypt was in a state of decline. Assyria had not yet begun its western conquests, but the Philistines had settled thickly on the southern coast of Palestine, and, being vigorous and warlike, they gave such trouble that the Hebrews demanded a king to lead their consolidated armies. The reigns of Saul, David, and Solomon followed. The magnificence of Solomon required heavy taxation to maintain its Oriental splendor, and, as a result, the ten northern tribes withdrew and established a kingdom of their own. Thus, before a century had passed, the nation was divided into two parts, Israel (or Samaria) in the north, and Judah in the south.

Assyria overran the kingdom of Israel, carried away nearly 30,000 of its inhabitants, and destroyed it (circa 722 B.C.). Isaiah prophesied to hearten the people; but in 586 B. C., the Chaldean king, Nebuchadnezzer, destroyed Jerusalem and transported the Judeans to Babylonia, though some had fled to Egypt for refuge, among whom was the prophet Jeremiah. It seems to have been during this period of disaster that the Hebrews began to rise toward monotheism from their previous worship of Yahveh as a tribal war-god.

When Persia under Cyrus became the dominant power, those Judeans who desired to return to Jerusalem (as all did not) were allowed to do so, and they received authority to establish a Jewish state ruled by a high priest. It seems to have been about this time that many of the old writings were gathered together, copied, studied, and preserved. Later, they were assembled in one book which, in translation, forms the Old Testament of our Bible. Meanwhile, the Aramean (or Syrian) language had been spread by commerce all through the Fertile Crescent, being written on paper with exclusively alphabetical signs borrowed (says Breasted) from either the the Canaanites or the Phoenicians. The Aramean language was destined to spread far and wide, even into India, forming the Sanskrit alphabet. It

was Aramaic that prevailed in Palestine down to Roman times.

It is needless to weary the reader with an account of the fluctuating fortunes of Palestine as one world-conquering power after another rose, fell, and gave place to its successor. On the death of Alexander the Great, it was conquered by Ptolemy from Egypt in 320 B.C., but was captured and incorporated into the Seleucid Empire five years later. Yet so great and so well recognized was its strategic importance that it remained a prize to be fought for by the two empires for a hundred years.

In 175 B. C., the Syrian King, Antiochus Epiphanes, determined to stamp out the Jewish faith and establish Greek culture. He took Jerusalem and desecrated the holy places. His tyrannical action brought on the Maccabean rebellion and (civil war in Syria having diverted attention from Palestine) led to the short-lived independence of Judea until the Roman conquest reduced it to the status of an insignificant province of that great empire.

During its brief independence, the nation was governed by the high priest as both spiritual and temporal ruler despite protests (especially by the Pharisees) that a man qualified for the one office was *ipso facto* unsuited to the other. Especially was the nation unhappy in a succession of weak and dissolute rulers who made the office of high priest but a mockery. The people were divided by political and religious dissension; the old faith and confidence in God had almost disappeared; and hope lived only in that Messianism which the Egyptians had known so many centuries before.

In all the time since the death of the great Lawgiver, the Israelites had not produced one true interpreter of Moses (although there is a glimmer of the Vision in Isaiah 19:23-25, completely at variance with verse 17, reflecting the multiple authorship of that book of the Bible).

The Israelites were Orientals, and they readily fell under the spell, the hypnotic influence, of Oriental religion. Zoroastrianism had its effects upon them, and from their Persian captivity they had brought back with them belief in angels. The Maccabees are

said to have been the first among them to have performed rites signifying a distinct belief in the resurrection of the dead.

How far had the Hebrews departed from Moses! On belief in the Other World of Oriental religion; on angels and archangels; on the resurrection of the dead and a life after death, he had preserved a studied silence. Yet all were now widely accepted. And, despite Moses' precautionary measures, a theocratic form of government had been established! Judea meant nothing to the world.

The great Mosaic Vision seemed lost, and lost forever.

CHAPTER XXIV

THE TESTIMONY OF JESUS

In Chapter XIV, Jesus of Nazareth, commonly called the Christ, was referred to as a disciple of Moses. He was thus placed in a lower category than the Lawgiver, for he was thereby reduced to the status of being merely a pupil or follower of Moses, one who accepted and helped to spread Moses' teachings as those of his master. The reader is entitled to know on what grounds such an unorthodox or heretical lowering of Jesus' status is based.

The grounds for it are both general and specific. But it must be recognized that the same difficulties are met with when trying to arrive at a just and true evaluation of Jesus as were encountered when trying to do the same thing with reference to Moses. They are, indeed, even greater. For Paul the Apostle used the traditions of Jesus to found another of those personal, man-to-God, religions of which there had been, were then, and still are so many. This he did by effecting a synthesis composed of elements which are principally either Judaistic or derived from the Grecian mysteries. The result reflects Paul's own character as that of one born and raised a Jew but living in a predominantly Grecian civilization or spiritual atmosphere, and unaware that those mysteries themselves were strongly colored with Oriental doctrine reaching straight back to ancient Egypt and its syncretism of verdure-god worship and sun-god worship (Osiris and Re) as noted in Chapter II, and to similar faiths of Mesopotamian origin.

The four Gospels which have come down to us as the only received records of the life of Jesus strongly reflect the work of Paul, having been repeatedly edited, amended, and emended to more closely conform to the Pauline doctrine. Consequently, the won-

der is not so much that there should remain in the Gospels some parts not harmonious with the Pauline tradition but, rather, that there should be any at all. Yet there are a number of such discrepancies, and not only are they significant with reference to the views expressed in this book but they are not of a kind to be easily brushed aside.

The reader will note that no effort is now made to evade the issue by resorting to a denial of the historical existence of Jesus, or by discrediting the story by falling back on authorities who may have shown that at least some parts of it are pure fiction (as the raising of Lazarus from the dead) or are merely incorporations of previously current myths (such as the entry into Jerusalem riding on an ass). The story is taken here as it is given in the Gospels. For, in these times especially, it would be almost catastrophic if the very existence of Jesus were disproved with finality. A large part of humanity would suddenly be deprived of a faith on which the utmost reliance has been placed, and it would feel as lost, as abandoned and hopeless, as many must have felt when magic was dethroned and fable says there echoed round the shores of Greece the mournful cry, The great god Pan is dead!

The desire here is less to undermine an old faith than to lay the foundations for a new one such as a new age requires. It is unavoidable if the latter purpose should involve the former effect, for even ideas must assert territorial dominion in order to exist—in the mind of man.

Among the general grounds above alluded to, then, is the significant fact that Jesus never left the confines of the territory of that people to which he belonged by birth. This is significant because, if he had a message for all mankind, or if he intended to found what Toynbee calls a "higher religion," why did he not go to one of the great centers of civilization of the time? Why did he not go to Athens, for example, where the people (says Acts 17:21) were always interested in something new? (That was why they gave so little heed to Paul, for Paul did not have something new but only an old story in a new dress, as those keen dia-

lecticians quickly perceived.) Or why did Jesus not go to Rome, then the political center of civilization?

To both those places (as to many others) Paul went because he had a gospel to spread,a gospel for all mankind, a gospel which did develop into a "higher religion". If Jesus had one, then why did he not do as Paul found it expedient to do? That he did not do as Paul did but remained all his life in Palestine is the Gospel story, and the general implication would seem to be that Jesus did not have a message for all mankind but only for those among whom he worked.

The only time when Jesus might possibly have been elsewhere is in those eighteen years of obscurity between his visit to the Temple at the age of twelve and his emergence at the age of thirty as a man with a mission. It has, indeed, been claimed that he spent those years in India or Tibet, sitting at the feet of some great master, studying and learning. But the supporting arguments are highly debatable and the hypothesis is unnecessary. The silence of those eighteen years can be explained much more simply, and a simple explanation is scientifically preferable to an involved one if it is adequate, as is the case in the present instance. This will be returned to presently.

The fact that Jesus remained in Palestine without at any time going to Athens or to Rome or any of the other great cities of the time except Jerusalem finds its fully adequate explanation in his announcement that his message was for the Children of Israel alone, or, even more restrictedly, for Judeans only.

This can be better understood if we know the reason for it, which was—as he expressed it—that he had come (or his purpose was) "to save that which was lost." (Ref. 27)

Many things, doubtless, were lost. But what most concerned him and (in his judgment) the people of whom he was born was Moses' lost vision of the pyramid of life, of which they had no understanding whatever but which he comprehended in all its implications. His purpose was to revive the great Mosaic Vision, and if ever that were to be done, the most likely place for it was among Moses' own Chosen People.

Their national tradition was saturated with the ideology of the Vision, even though they—by following another (Persian) tradition—had, as Jesus said, made it "of none effect." (Ref. 28) Moses' Chosen People still lived in Moses' Promised Land, and —especially in Judea—had preserved the forms of the ritual Moses had given them. Jerusalem, containing Solomon's Temple and rich in memories of earlier days, was their holy city. If the Vision could not be revived in Judea, there was little hope of giving it life elsewhere. Jesus, accordingly, worked among the Hebrews, and nowhere else. For his message was (to repeat) for the Children of Israel, and for them only. He made this plain both by direct statement and by the force of his own example.

An unequivocal statement to this effect is found in Matthew 10:5-6. It reads: "These twelve Jesus sent forth, and commanded them, saying, Go not into the way of the Gentiles, and into any city of the Samaritans enter ye not: but go rather to the lost sheep of the house of Israel." These instructions are certainly clear and specific. There is nothing ambiguous about them. Not only were his disciples to avoid the Gentiles, they were to have nothing to do with even the Samaritans, though there must have been many of Hebrew blood still living in that northern part of the territory. But "the house of Israel" now had its home in Judea. Therefore, the disciples were to go to the Judeans, and to them only.

One comes upon this instruction with astonishment and searches for it in the three other Gospels in vain. Yet the marvel is less that it should not be found in them than that it has been allowed to remain in even one of the four. For not only is it not harmonious with the Pauline concept; it is actually in direct opposition thereto.

Another instance is found in Matthew 15: 22-28. "And, behold, a woman of Canaan came out of the same coasts, and cried unto him, saying, Have mercy on me, O Lord, thou son of David; my daughter is grievously vexed with a devil. But he answered her not a word. And his disciples came and besought him, saying, Send her away; for she crieth after us. But he

answered and said, I am not sent but unto the lost sheep of the house of Israel. Then came she and worshipped him, saying, Lord, help me. But he answered and said, It is not meet to take the children's bread and to cast it to dogs. And she said, Truth, Lord: yet the dogs eat of the crumbs which fall from their masters' table. Then Jesus answered and said unto her, O woman, great is thy faith: be it unto thee even as thou wilt. And her daughter was made whole from that very hour."

In this quotation the statement of restriction is even stronger than in the first. Jesus is shown as saying categorically, with no qualification whatever, that he is concerned with the Jews alone. "I am not sent but unto the lost sheep of the house of Israel." Furthermore, he is shown as acting on that principle, and doing it without the slightest consideration for the feelings of the one to whom he was talking.

There could hardly have been a more touching appeal than that made by this woman. It was the appeal of a mother for her child, the appeal of maternal love: "Lord, help me." Whose heart would not be touched by that? Yet Jesus turned coldly away, insulting her by calling her a dog! And the disciples were no more moved to pity then he, for, when they asked him to send her away, it was not out of sympathy for her but only because they wanted to be rid of her clamor: "for she crieth after us"!

If it is astonishing to find the delimiting instructions to the disciples still standing in the Gospels, how much more astonishing is this, with its exhibition of hardness of heart! How can one account for it?

The probable answer is found in the woman's nationality, for she was not an Israelite but a Canaanitish woman. And it may be that the cold exterior and the contemptuous language were assumed deliberately, for the specific purpose of proving to all who might hear of it that what he had just said was true: that he was concerned with the Hebrews only, and with no others under any circumstances whatsoever.

For he had work to do; it related to the Israelites alone; and concentration was necessary. To expend his energy on other peo-

ples would be to weaken it by diffusion, and he would accomplish nothing. Therefore he refused to be diverted, and by his action in support of his words, he served notice on all and sundry that he had no interest in any but "the lost sheep of the house of Israel."

His repeated use of that term, "the house of Israel," is itself significant. For it means that he was less concerned with individuals than with the people as a whole, as a society, or with (in a word) the Jewish nation. Its existence was more important than that of any individual and it stood above all personal relationships. He made this plain on several occasions.

In Mark 3, we read how, having entered a house about which the multitude quickly gathered, he argued with the scribes and reproached them for their bad logic. His friends were anxious for him, wanting to take him away but could not get to him. From verse 31 to the chapter's end, the story proceeds: "There came then his brethren and his mother, and, standing without, sent unto him, calling him. And the multitude sat about him, and they said unto him, Behold, thy mother and thy brethren without seek for thee. And he answered them, saying, Who is my mother, or my brethren? And he looked round about on them which sat about him, and said, Behold my mother and my brethren! For whosoever shall do the will of God, the same is my brother, and my sister, and mother."

His brother, his sister, his mother? Yes; for all those who sat about him were of "the house of Israel." And it, as a spiritual Being, a psychozoic organism, was of a rank or level in the pyramid of life higher than and superior to man. From the people's massed spiritual energy the nation had emerged and was continually maintained as a greater organism exhibiting a new pattern of behavior, as all emergents do. The nation, "the house of Israel," was a national social organism, and no less an organism in fact for having no physical, no corporeal, existence but only a spiritual reality. As creators and perpetuators of that society of which both he and they—spiritually speaking—were born, they all, collectively, were his "mother." As being—spiritually speak-

ing—born of it, they all, individually, were its children, as he was, and therefore his spiritual brothers and sisters. Nothing could be more clear, more precise, or more scientifically correct.

Jesus had come to feel that he personified the spiritual essence of that fathering organism, the Hebrew nation, and he showed it in his answer to Philip, who was curious about the Father and who said to him, "Lord, show us the Father, and it sufficeth us." Then: "Jesus saith unto him, Have I been so long time with you, and yet hast thou not known me, Philip? he that hath seen me hath seen the Father; and how sayest thou then, Shew us the Father? Believest thou not that I am in the Father, and the Father in me? the words that I speak unto you I speak not of myself: but the Father that dwelleth in me, he doeth the works. Believe me that I am in the Father, and the Father in me: or else believe me for the very works' sake." (Ref. 29)

How simple it is, and well might Jesus be amazed that Philip had not seen it! Show us the Father? Why, all who ask that question have but to look around them at their friends and neighbors, the members of their community, their society, their nation. For they, collectively, are the Father. And they collectively are also the Mother of which Jesus spoke to those who sat around him as quoted above from Mark 3:31-35. Its territory of dominion is indifferently the fatherland or the motherland, for nations are asexual. (How beautifully does our very language take cognizance of what to our thinking minds has not yet been isolated as perceived fact!) When we use the term mother-country, it has reference to a parental relationship between two or more nations, from one of which the others were born by fission. But fatherland and motherland are terms which refer specifically to the relationship between individuals and that society which made them what they are, its spiritual sons and daughters. Yet, by the mutually creative relationship, they—the people—make the nation what it is. Therefore, when at home, participating in its life, they are its Father, or—as Jesus so rightly said—its Mother. Especially close and moving is this relationship when its reciprocally creative effect is fully realized.

For then it operates powerfully upon the heart, the soul, the mind.

It was as one Israelite speaking to another Israelite of this reciprocally creative relationship that Jesus told Philip of "the Father that dwelleth in me," and said, "Believe me that I am in the Father, and the Father in me," making a plea "for the very works' sake" if Philip could not grasp the mystic yet plain meaning of his words. How could he make it plainer?

But where did Jesus get such ideas? Where? Why, he got them from Moses, and from the verification of Moses he found in Nature.

If there is one fact that stands out clearly in the personal life of Jesus, it is that he was a devout and profound student of Moses. And, from his many references to natural phenomena—to trees and their fruit, to how sunsets foretell the weather, to figs and thistles, and so on—it is clear that he was as familiar with Nature as any small town or country resident would be. It was in those eighteen years of obscurity, spent quietly at home in Galilee, that he became familiar with that great teacher, Nature, and learned to commune with it as Moses had learned. In Moses and Nature, taken together, he had all he needed to teach him truth, and no Buddhistic or other savant could have taught him half so well.

When, at the age of twelve, Jesus went up to Jerusalem with his parents, it was not the wonders of the big city that interested him, but the discussions of the learned doctors of the law. When we would expect to find this young lad roaming the streets, gazing in astonishment at the strange sights—the open-fronted shops with their displays of curious wares; the grotesquely garbed strangers from far and wide; the Roman soldiery marching by in shining armor to the blare of brazen trumpets—we find him instead seeking the Temple, there to lose himself in those erudite discussions, forgetful of parents and of home.

He was evidently an active lad, accustomed to looking after himself without much parental supervision. For, when Joseph and Mary started back to Nazareth, they did not miss him until

they had gone a full day's journey, "supposing him to have been in the company." When at last they found it was not so, they returned to Jerusalem and searched for him fruitlessly for three days. "And it came to pass, that after three days they found him in the temple, sitting in the midst of the doctors, both hearing them, and asking them questions. And all that heard him were astonished at his understanding and answers." (Ref. 30)

This early interest in the Mosaic Law was never lost. Time after time when, in the years of his ministry, hecklers tried to trip him with legal questions, it was he who confounded them with his answers. For he breathed into the Law a spirit that made it alive as they did not know it could be, so clearly did he understand it and its implications. Again and again he referred back to Moses as to an authority.

Paul the Apostle found the Law inadequate, and he "died" unto it. (Ref. 31) But Jesus found no fault with it, except that it required such understanding as Paul was quite unable to give it, for it was beyond him. And so, in contrast to Paul, Jesus stayed alive to the Law and limited his work to those to whom it had been given, the Hebrews.

Just as Moses had required a national social organism to work with because the work he sought to do pertained to the level of such organisms, so did Jesus desire to awaken the nation Moses had founded to awareness of the work itself. A confession of the national scope of his designs was wrung from him when he cried out in an agony of despair: "O Jerusalem, Jerusalem, thou that killest the prophets, and stonest them which are sent unto thee, how often would I have gathered thy children together, even as a hen gathereth her chickens under her wings, and ye would not! Behold, your house is left unto you desolate." (Ref. 32)

And yet, just as he knew that he would fail as Moses had failed, so did he know—again like Moses—that ultimately, inexorably, by the very nature of things and the grand evolutionary plan incorporated in the pyramid of life, what both he and Moses had envisioned would come to pass. But, because he

loved the Children of Israel, just as Moses had loved them but with, perhaps, more reason (since he was born after and not before the nation was formed), he was saddened by the thought that other peoples would bring the Vision to pass, and not the Israelites.

To this, too, he gave expression. It is read in the story of the centurion given in Luke 7:1-10, and in Matthew 8:5-13. Though he found in the centurion greater faith than he had found in all Israel, it did not cause him to rejoice. Sadly he said: "And I say unto you, That many shall come from the east and west, and shall sit down with Abraham, and Isaac, and Jacob, in the kingdom of heaven. But the children of the kingdom shall be cast into outer darkness: there shall be weeping and gnashing of teeth."

What he envisioned as the kingdom of heaven was that reign of peace and international harmony and cooperation which the peoples, the nations, from the east and the west would one day bring to pass, making it a reality here on the earth. But he was a patriot with a full measure of proper racial pride, and he bewailed the fate he foresaw for the Hebrews: that they would neither hasten the coming of that day nor have any part in the great work. Other peoples would perform it—as nations. It was of this work that he spoke to Philip.

His hope had been to make the Hebrews a nation such as Moses had planned and had hoped would emerge. In the incident of the coin bearing Caesar's image and superscription, his directive: "Render therefore unto Caesar the things which are Caesar's; and unto God the things that are God's" (Ref. 33), has reference to that spirit of nationalism which, in its democratic form, was and is the hope of the world. As members of a Roman province, they must pay tribute to Caesar. But, as the Children of Israel, they could and should maintain their nationality alive by rendering unto that Lord of their life a devoted loyalty engaging all their hearts and all their minds and all their strength and might.

How greatly did Jesus rely on Moses' teachings! From "the

writings of Moses" he took those two commandments on which (he said) hang all the law and the prophets. The first is found in Matthew 22:37, where it reads: "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind." It is repeated with slight variation in Mark 12:29-30, and in Luke 10:27. It comes, however, from Deuteronomy 6:4-5, the last of the so-called Mosaic Books. The second of the great commandments—which Jesus always linked with the first because he said it was "like unto" the first—reads: "Thou shalt love thy neighbor as thyself." It derives from Leviticus 19:18, also one of the Mosaic Books.

In Deuteronomy as in Mark, the first of these commandments is preceded by the exhortation: "Hear, O Israel, the Lord our God is one Lord," and although this is omitted in Matthew and Luke, it is always understood. For it was an admonition to give wholehearted devotion to the Father, even to the fullest extent of all one's powers, and the Father is that entity, the nation. As Jesus said, paraphrasing part of Moses' exhortation reported in Deuteronomy 8:3, "Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God," or, as it reads in Deuteronomy, "the mouth of the Lord." Yet "God is not the God of the dead, but of the living." (Ref. 34) It is the living who, by their life and not by their death, sustain the Father alive, and yet who live by the dictates of its popular voice, current and traditional.

"God is a spirit: and they that worship him must worship him in spirit and in truth." (Ref. 35) For national social organisms are indeed spiritual Beings, and without devoted patriots who place home and country above all else there can be no permanence to national life. The Greeks and Romans lived by this principle until the immoral insistence of imported, Oriental religions, demanding devotion to the fabulous gods of their Other World, condemned devotion to the things of This World and devitalized that right and proper spirit of nationalism without which nations cannot long exist. How long a time has it taken to even loosen the grip of that incubus!

The expressions quoted above are rendered somewhat difficult by their use of the terms, "the Lord," and "God" as if synonymous. There would be less ambiguity and confusion if a differentiation were made between "the Lord" as representing the national social organism and "God" as representing either our terrestial pyramid's Final One or the Cosmic Unity, depending on how far one is willing to go with that speculative extension.

It only remains to show how the second of the two great commandments is "like unto" the first. The question is, Who is that neighbor whom we should love as ourselves?

Jesus, having been asked this question, answered with the parable of the Good Samaritan. It supports what reason tells us.

As it is here understood, the term, neighbor, has three degrees or ranges of application. First and foremost always, "thy neighbor" is thy personal neighbor, the members of thy community, and of all those lesser, sub-groups which, in aggregate, compose thine own great-group or nation. Simply, thy neighbor is, first of all, thy fellow-countrymen at large. Second, he is thy nation's neighbor—the other nations of the earth. Third, he is all the members of thy biological species—he is genus *Homo* wherever found.

All these must eventually join in the great work. And so to all of them the Golden Rule applies. But it applies with diminishing intensity as its range of application widens, for it then becomes more and more diffused and correspondingly weaker.

The foregoing, then, are the principal grounds on which the interpretation of Jesus as a disciple of Moses are based. However unorthodox, however heretical, this interpretation may be, it establishes a spiritual harmony between the Old and the New Testaments which is not otherwise seen. By it, both Testaments testify to the same thing.

This view of the relationship between Moses and Jesus would be incomplete if the warning of Jesus found in the last Gospel were omitted. It is therefore again quoted, with some clarifying interpolations inclosed in parentheses.

"Do not think that I will accuse you (nationals) to the Father (the nation): there is one that accuseth you, even Moses, in whom ye trust. For had ye believed (understood) Moses, ye would have believed (understood) me: for he wrote of (such as) me. But if ye believe not (understand not) his writings, how shall ye believe (understand) my words?" (Ref. 36).

Alas! When Paul the Apostle—following a long-established and common pattern—seized upon the tragic figure of Jesus and made him the god of another religion; and when the religion Paul founded overcame the competition of Mithraism and rose to spiritual supremacy in the Western World, then hope that the great Vision would rise before the eyes of men seemed lost once more.

Nevertheless, and despite discouraging factors impossible to minimize, there is today more hope for the Vision than ever before. That hope centers in America.

The first necessity for the Vision (as both Moses and Jesus knew so well) is to gain dominion over one national mind, and it is in America that a national mind is approximating the Vision as never before. That approximation is occurring in several ways, and as an ideology over and above the practical.

By the achievements of material science, American thought is being forced toward the Vision (in the One World ideal). By new understandings in biological science, American thought is being led toward it. And the inadequacies of theological dogma have opened for it the door of opportunity, inviting it to enter in and take possession.

How biological science is leading the way toward the Vision is shown in Part V. For no account of the Vision would be complete which did not follow it on into those later times to which both Moses and the Christ looked forward with expectation.

PART V

CHAPTER XXV

SYNERGY, THE IMPLEMENTING FORCE

One of the greatest beauties of the evolutionary process as it now most actively operates (that is to say, upon humanity at large) is its perfect impassivity. No human belief in it or even awareness of it is necessary to its operation, which proceeds by stern compulsions. The only difference is to humanity itself, which has the option of securing greater happiness by conforming intelligently to evolution or of opposing it and suffering the consequences. It makes no difference whether such opposition be conscious or unconscious: the consequences follow in either case, and they are certain to be serious if not disastrous.

Humanity, feeling the compulsions in one way or another, may conform by reaction through expedient. But there can be no truly intelligent cooperation with evolution until there is a widespread comprehension of it such as does not now exist. Especially is this true of international relations. For the peoples and their nations must know what evolution requires of them, or (as Moses said) "the way wherein they must walk, and the work that they must do."

Nothing can so surely point that way and teach that work as knowledge of the principles of the pyramid of life—how it has been and is being built.

In preceding chapters, the pyramid of life has been shown as it must have appeared to Moses, even though (as in some cases) this involved error of detail. For, in concepts so vast in scope, minor details are not of great importance: they are not vital to

the total rightness of the grand idea itself. And to show that has been the primary object.

Of course Moses was not right in every particular; how could he have been? Yet his errors and misconceptions were insignificant, for he made none that mattered.

In Moses' day, the existence of some creative force in the evolutionary process was implicit because the effects were, in fact, produced. But what that force was and how it operated could not then be known. The discovery of its nature has had to await the later days of science, whose interest in the *how* of phenomena rather than the *why* of them has become increasingly specific.

Unhappily, the struggle of life to which Darwin drew attention was all too neatly epitomized by Herbert Spencer as "the survival of the fittest," and too many—accepting evolution in lieu of specific spontaneous creation—have taken Spencer's sloganlike phrase as putting the whole evolutionary process in a nutshell. Consequently, a state of mind obstructive of evolution has been widely established.

Carried to its grim but logical conclusions, Spencer's phrase sets its seal of approval on savage race antagonism, sanctions Nietzsche's Superman concept and the Master Race doctrine, substitutes the abuse for the use of nationalism, and justifies wars of aggression such as the world has lately seen twice within a generation. It is largely responsible for the agonies and destruction of both World Wars.

Nor is that all. There are many today who, at most, give but lip service to such cooperative movements as that of the United Nations because they are convinced that all such movements are foredoomed to failure. They hold that "the survival of the fittest" is *the* law of life. Therefore (they say) nations will war upon each other until one conquers all the rest and keeps them in subjection.

To all this the great Mosaic Vision stands in direct opposition, holding it to be gross error, as, indeed, it is.

What Moses could only apprehend or sense intuitively, we can comprehend and know scientifically. For there is a scientific

explanation of the *how* of biological evolutionary progress, whose signposts are the successive levels of the pyramid of life. That *how* is through the operation of a force causing a governing trend productive of such characteristic features of the pyramid as diminution of number, increase in individual territorial dominion, and the superimposition of level on level. It thus implements movement toward the pyramid's apical Final One (for which see Chapters XIII and XV).

The truly creative evolutionary law of life finds expression in this force, which is cooperative and primary, and not in the struggle of life, which is competitive and secondary.

Since early Victorian times there has been an increasing recognition that some such force operates in the evolutionary process, but it was George Henry Lewes who gave its manifestations the name by which they are now most commonly known, which is *emergents.* (Ref. 37). They occur, not only as inorganic but also as organic phenomena, and the study of them has given rise to the biological school of Emergent Evolution, which now has a considerable literature. The force itself, however, still has no commonly accepted designation.

In this book, this creative force is called *synergy,* a word derived from two Greek roots, *syn* or *sym,* meaning together, and *erg,* meaning work. Synergy thus means "a working together." In the past, this term has been used in several senses: theological, medical, psychological, etc. As here employed, it signifies the inherent tendency of things to cohere, interact, or organize, and which produces emergents and individualizations.

The late Dr. William Morton Wheeler defined EMERGENCE as *"a novelty of behavior* (new properties) *arising from the specific interaction or organization of a number of elements, whether inorganic, organic, or mental, which thereby constitute a whole, as distinguished from their mere sum, or 'resultant'."* (Ref. 38).

The present author would define an INDIVIDUAL as a whole, integrated of a number of specialized parts, all cooperating actively and harmoniously for its maintenance and functional efficiency, and *existing in a differentiated internal environment*

separated from the external by integumentation (skin, shell, or other effective medium, however tenuous). Electrical bipolarity is premised by some as a usual characteristic.

The two foregoing definitions may seem to describe very much the same thing. But there is a difference, for all individualizations are emergents but not all emergents are individualized, as will later be shown.

Since synergy and emergence are here considered as implementing the construction of the pyramid of life by making it possible, some discussion of how they do it is essential to a proper understanding of that master phenomenon. This can be done, however, only in the most cursory manner, from considerations of space if for no other reason.

The discussion will proceed logically from the inorganic to the physical organismal world, and from that to the (as it is here called) psychozoic organismal field, in which emergents are societies and true organisms, as Dr. Wheeler so rightly maintained. (Psychozoic derives from *psyche,* soul, mind, and *zoe,* life, with the adjectival suffix, *ic.*)

There is hope that as the way in which synergy and emergence make the pyramid of life possible is sketched it will become apparent that the present uncertainty and confusion among emergent evolutionists as to what the levels of emergence really are can be dispelled IF the concept of such evolution is merged with but made subordinate to the grander concept of the pyramid of life. This would also prove advantageous to philosophers of history, sociology, and even psychology, whose larger views cannot but suffer from neglect of the pyramid of life and ignorance of its principles, for they operate in all fields of inquiry relative to life. To philosophize in those fields without reliance upon previously determined principles is to work naively. Principles found only as the inquiry proceeds are sure to be lesser ones with limited authority, for a start is made at too late a point in the evolutionary process. It produces too much false philosophy and causes too much unnecessary searching. Knowledge and

understanding of the pyramid of life would preclude much error.

A schematic arrangement which could have corrective power in this respect is presented in the penultimate section of this chapter. If adopted, it ought fully to justify Dr. Wheeler's commendation of the "investigative love" which he describes as "that union of the historistic and naturalistic interests which seems to inspire an ever-increasing number of our biologists and promises the fullest ultimate understanding of animate nature." (Ref. 39).

I

The basic unit of the inorganic world is here taken as the atom. While investigations into their composition tend to indicate that atoms are themselves emergents, it is needless here to go into the known details of their construction. It must suffice to say that atoms are now conceived of as having a core about which rotate from one to seven "shells" of electrons, not lying in the same plane. There are held to be 2 electrons in the first (most central) shell when it is complete, 8 each in the second and third shells, 18 each in the fourth and fifth, 32 in the sixth, and 18 in the seventh, should it ever be complete. There are thus 104 conceivable chemical elements, though but 92 of them are of natural occurrence so far as is known.

This "periodic table" of the elements grew from Mendeleef's perception of an orderly arrangement in what had seemed chaotic. Those whom Professor M. J. Bonn has called "detail-mongers, who knew how to kill an idea by specific objections to it," (Ref. 40) should note that the periodic table of the elements has great theoretic and practical value despite the occurrence in it of a number of irregularities or discrepancies. There are, for example, isotopes, reversals of the atomic weight progression, and the singularity of 32 electrons in the sixth concentric shell instead of 18. To these might be added what is called allotropy, or the property certain elements have of appearing in two or more forms. The value of the table lies in its over-all schematic arrangement. Discrepancies in some details cannot destroy or

even affect that value, which has been proved again and again.

Any one of the seven electronic shells can be complete or incomplete, as having all or lacking some of its full complement of electrons, but none can be incomplete except the outermost (integumenting) shell. It is the complete or incomplete state of the integumenting (outermost) shell which determines the chemical activity or inactivity of the element. A perfectly integumented element is chemically inert, but the imperfectly integumented elements are chemically active in varying degrees. Since there are but seven shells, there can be only seven chemically inert elements (helium, neon, argon, krypton, xenon, and radon—the six inert gases, together with the yet unidentified No. 104).

All the chemically active elements more or less readily (sometimes violently) combine with other elements to form chemical compounds. And all chemical compounds are emergents with new properties "arising from the specific interaction" of a number of *different* or *unlike* components. This heterogeneous elemental characteristic of chemical compounds is recorded in their formulas, as instanced in such simple, familiar examples as those of salt (NaCl), sulphuric acid (H_2SO_4), and borax ($Na_2B_4O_7$).

Since the chemically active elements far exceed in number the chemically inert ones, it follows that the inorganic world about us is overwhelmingly composed of emergents produced by the interaction of unlikes, and *unlikes only*. This may be called the Rule of Heterogeneity: it governs the world of inorganic matter, including atoms.

The classic example of an inorganic emergent is water, the well known H_2O. It is used as an example because it illustrates simply but strikingly the principle that the nature—the form and character—of an emergent *cannot be foretold* from knowledge of its constituents alone. A fluid, water is compounded of two gases, neither of which it resembles in any respect, for it has properties completely different from those of either. Thus, hydrogen is combustible, while oxygen is a supporter of combustion.

But water is neither the one nor the other, and one of its commonest uses is as an extinguisher of combustion.

The Rule of Heterogeneity governing chemical compounds and so the constitution of inorganic matter has an observable corollary: the negation of individuality. While atoms have every appearance of being individualizations, this is true only of those of the *inert* elements. As for the others, neither in masses nor in chemical compounds do they have that appearance. Water can, indeed, be measured in small quantities, as in "individual" drops, but water is never individualized structurally and the drops lose their identity when returned to the mass. A piece of marble or of sulphur can be fragmented, but the single fragments differ from the original piece in size, shape, and weight only. In chemical compounds, whatever individuality there may have been in the constituting elements is lost, and cannot be restored except by chemical means, including heat and electricity. Individuality therefore seems to have neither place nor use in the inorganic world.

Summing up, the rules of heterogeneity and non-individualization appear to be characteristic of the inorganic world. But the principle of the unpredictability of the properties of an emergent is universal, for it is a characteristic of emergence, which is not limited to the inorganic.

II

The long-standing belief that life could not have arisen spontaneously on this planet but must have come to it from some outside source is now obsolete. In the light of present knowledge, the passage of any kind of life or life-bearing medium to our earth from any conceivable extramundane source appears impossible. Extremes of temperature; bombardment by cosmic rays; sheer distance and the time required to traverse it; etc., would preclude the external origination of life. Moreover, while much remains to be learned about the exact *how* of it, enough is known to enable us to say with well grounded assurance that life both could and did arise here spontaneously.

The basic, necessary factor in that origination undoubtedly was the presence of chemical compounds. But—as is so often found to be true as the history of biological evolution is traced—the particular effect hinged upon a particular event or concatenation of circumstances. In this initial case, the origination of life seems to have required a particular element, nitrogen, in the form of chemical compounds which made it "available."

Nitrogen, forming 78.03% of the earth's atmosphere by volume, is fixed in combination with oxygen by the electrical discharges of thunder storms, whose rain then washes it down to the earth, where it becomes available to life. The two auroras —but especially the aurora borealis—are believed to have the same nitrogen-fixing effect. The combustibility of nitrogen-compound mixtures, varying as it does with temperature from slow deflagration to sudden detonation, appears to be what makes nitrogen essential to all forms of living tissue. (This varying combustibility is—according to the famous Dr. George W. Crile—what causes heat stroke when the human body temperature rises a number of degrees above its normal 98.6° F.) Dr. Crile further asserts that, "generally speaking, the nitrogen fraction becomes the positive element, and the carbon fraction becomes the negative element in the synthesis of life." (Ref. 41).

Actions commonly accepted as characterizing living things can be performed or imitated by a number of non-living substances. Thus, if a little alcohol is injected into a drop of clove oil in water, it will put forth pseudopods like those of an amoeba. A drop of chloroform in water will accept "food," and displays selectivity in so doing, "ingesting" some substances but rejecting others and even ejecting them if forcibly introduced. Filterable viruses can reproduce themselves even after repeated crystallization, which no living thing can survive. But each such "mechanical model" can perform only one of those many activities all of which a living organism must perform. Especially must a living organism digest food, and this it could not well do were it not for enzymes. These are specifically adapted biological catalysts which speed up the chemical reactions of digestion. They are manufactured now by the living organism itself, but when and

how they originated is a mystery. Yet, without enzymes, even nitrogen would not have sufficed for "the synthesis of life." (Ref. 42).

Having made its feeble beginnings, life had to have nourishment to sustain its energies and furnish the materials necessary for growth. This it is thought to have found in rich carbon-hydrogen-oxygen-nitrogen sources, those elements now being held to have been much more abundant in available form than was long believed possible in that early geologic age.

The end-product emergent of this "specific interaction or organization of a number of elements" was life in unicellular form. The cell thus becomes the basic unit of the physical organismal world of life. And from this unicellular life (possibly in the form of a primitive alga or flagellate) all the multicellular forms of both the vegetable and the animal kingdoms evolved.

Far back in geologic time, in the earliest days of the Archaeozoic Era, a dichotomy must have occurred as some primitives came to depend upon the photosynthetic power of their chlorophyll to manufacture their own food and others, losing their chlorophyll, began to seek external sources of supply. Thus (it is held) the division between the two kingdoms began and was established, thereafter to be maintained in perpetuity.

Cells share the common characteristic of living things of possessing the power of reproduction: they multiply by division. What are called daughter cells split off from the mother cell as duplicate cells and begin their own independent existence as individuals. But not always do they become and remain independent. Sometimes immediately, sometimes after an interval, they may associate in various patterns, and for a time only or permanently.

In this association of cells the first steps are taken which lead ultimately to the evolution, as end-product emergents, of physical organisms such as those which, in their infinite variety, constitute the vegetable and the animal kingdoms, including man.

Why these first steps should be taken is a mystery, for no immediate advantage in the struggle of life appears to accrue from

them, but, rather, the contrary. Dr. Caryl P. Haskins, in two extremely interesting articles published in The Atlantic Monthly, discusses the development of multicellular life as it is observable today. He says: "Every evidence seems to indicate that the first transition from the solitary to the colonial mode of life was not an expedient move." (Ref. 43).

Nevertheless, in a series of genera, each carrying it forward to a characteristic degree only—some advancing it but slightly, others going a little beyond that stage, and still others going farther yet along the path—synergy begins to knit the associating cells more and more firmly together, both physically and through an increasing specialization of function which more and more fully subordinates the individual cells to the activities, preservation, and perpetuation of the whole as a unit of multicellular life. The process closes in the final emergence of what we call physical organisms and which are, in fact, greater individualizations on a new and higher level of life. Each and every such emergent—tree, shrub, herbage of all kinds, as well as all animal life, vertebrate and invertebrate and including man—is a form of multicellular life, or, as Dr. A. J. Lotka has referred to them, a "population" of cells. (Ref. 44).

Although the cells cooperating to form physical organisms so subordinate themselves to the unity of the whole by specialization of function as very strictly to reduce the range of their own activities, they do not lose their individuality but retain it: they continue to exist as individuals. That is why a tree, an elephant, or a human being, can properly be called a "population" of cells. Nevertheless, the emergent produced by their harmonious cooperation is itself an individualization although an individualization on a new level of life.

This preservation of the individuality of the multiple interacting elements combining to form emergents seems as characteristic of the world of the living as the loss of such individuality seems characteristic of the inorganic world.

It must have been in a similar—if not precisely the same—way that synergy and emergence produced the physical organisms of the pyramid of life far back in geologic time, each one being

an individualization greater in every respect than any single one of the individualizations cooperating to bring the new emergent into existence: greater in size (organism versus cell); greater in efficiency (the result of specialization of function); and greater in length of life-span (the component cells are continually dying and being replaced by new ones, but the organism itself persists, outliving them all until the close of its own life-span is reached).

Here it is important to notice—and to emphasize—a highly significant contrast between emergents in the inorganic world and emergents in the world of the living, over and above that of the preservation of the individuality of the constituting elements. It is that whereas emergents in the inorganic world are produced only by the interaction of *unlikes,* in the world of the living it is the interaction or organization of *likes* that produces them. Chemical compounds (like atoms) result only when *different kinds* of elements unite. But organisms of all sorts result only when *the same kind* of elements unite.

This fundamental characteristic of organic emergence has profound effects, for it is maintained in all later biological evolutionary history. Some of the most difficult and vital problems faced by humanity today seem to have their roots in it, so primary does it appear to be.

When the dichotomy by which the vegetable and the animal kingdoms were made separate and distinct occurred, the main problem of the feeders on external substances was to find food which could be both ingested and digested. But, ere long (evolutionarily speaking), the dichotomy continued and a selective discrimination between vegetable and animal sources began. Then, as the vegetarian and carnivorous habits became fixed and characteristic, the pyramid of life took shape in crude and primitive form. It, too, must have originated well back in the Archaeozoic Era, which began some 1500 million years ago and even earlier. The pyramid of life, continuing on "unto this day," is thus (as it were) ageless and immortal.

Although the pyramid is effectively immortal, it is yet dynamic, and it is difficult to see how this double effect could have been achieved without individualization. Again and again the

character of the organisms constituting its levels has changed, yet the pyramid has persisted unchanged in all its essentials. Individualization appears to be the decisive factor in the perpetuation of the pyramid despite all changes, for individualization permits the various levels to persist despite the death and destruction of their members, which occurs severally and haphazardly. What is perpetuated is not the individual members but their categories: the kingdoms, phyla, and their divisions and subdivisions, and always more surely as the classification broadens, from species up to phyla and kingdoms.

Individualization also gives the pyramid a kind of flexibility which permits it to survive all changes in conditions not fatal to life as a whole. And it is here that "the survival of the fittest" seems to play its most useful part.

During the billion and more years that life is estimated to have existed on this planet, the planet itself has undergone great and radical changes. The conditions under which life has had to exist have altered repeatedly. These alterations were such as to present the biological alternatives of adjustment or extinction. The intense competition of the struggle of life had forced the seizing upon and the exploitation of every possibility of existence, so that every niche, nook, and cranny was occupied, no matter how precarious the existence afforded may have been. Consequently, as geologic and therefore climatic conditions changed, there were always some forms able to take advantage of the changes by conforming to them. Those forms which were perfectly adapted to the old conditions died out, but those less specifically adapted to them might survive the change and thrive under the new conditions as never before.

Without the pressure of bitter competition and its resultant diversity of life forms, a radical change in conditions might have been fatal to life as a whole in one or more of the levels of the pyramid, with destructive effect upon all the higher ones dependent thereon.

Meanwhile, in relatively static conditions, the struggle to survive forced a high pitch of efficiency upon all, together with the territorial expansion of each successive level until world-

wide aggregate dominion by that level was attained, thereafter to be maintained in perpetuity.

The appearance of warm-blooded animal life, requiring (on Dr. Crile's theory) enlargement of the brain to maintain body heat and of the thyroid and adrenal glands to give rapidity of movement for flight or fight, opened the way to the addition of further levels to the pyramid. That way seems to have lain through the carnivorous habit.

As a general principle, predators require mental equipment superior in efficiency to that of their prey. Predatory land animals must often resort to ruse and stratagem based on intimate knowledge of the habits of their victims. The killer, to live on prey capable of instant and sustained flight, must outwit the kill. Hence, as the struggle of life intensified, brains—intelligence—slowly acquired increased survival value, an increase tending ever to further increase in value.

Thus, through those terrible takers of life, the great carnivores, evolution slowly drew nearer to the emergence of a world of mental life.

III

The power of synergy to create emergents was not terminated by its production of physical organisms. It continued to operate, and the result of its further operation was the emergence of psychozoic organisms or societies.

As had so often been the case in the physical organismal field—where forms not in the true line of the construction of the pyramid of life were produced as if by the blundering trial-and-error method, or experimentally, only to linger on or disappear forever—synergy's earliest products in the psychozoic field proved to be abortive. That is to say, they were useless in that no further levels of the pyramid evolved from them. For the earliest societies were insect societies, and insect societies are not of any direct importance to the structural development of the pyramid of life. Nevertheless, insect societies cannot be passed over in silence.

Curiously enough, the phylogenetic history of the social insects

and the details of their evolution from the solitary stage to that of full social life are far better known than is the case with man and human societies. In that evolution, the compulsion of natural law is plainly evident. For, over and above the vegetarian mode of life necessity noted in Chapter II, the emergence of social life (as Dr. Wheeler emphasizes) requires the prolongation of the life-span of the parent. It must, indeed, extend simultaneously over the immaturity of successively born offspring so as to permit their intimate association with the parent(s) as a group. This seems related to non-seasonal fertility.

With most insects, the imago (adult) stage is brief, whereas the larval and pupal stages may be quite long. Usually, the adults breed and soon die. But the larvae may exist in their immature, wormlike state for months, even for years. An extreme example of the breed-and-die type is the May fly, whose adult life is one day, during which brief time it molts twice, mates, the female lays eggs in water, and then the insect dies. At the other extrēme is a species of cicada, whose adult existence is but a few weeks but whose larvae have an underground existence of (usually) seventeen years, for which reason it is commonly called the seventeen year "locust." Social life among insects of the breed-and-die type is obviously impossible, for one generation does not even see another.

The adult life of the ancestors of the social insects was of the breed-and-die type. But it was gradually prolonged until, in the ants, a queen may live and produce offspring for from twelve to seventeen years! The life of a termite queen is about ten years, during which time eggs are laid with clocklike regularity. This prolongation of the parental life-span was one of the prime factors which made insect social life possible.

Human beings, being mammals, did not have to undergo such a process of life-span extension, but the rule is applicable nevertheless. Parental care and training are indispensable to human social life, and the lack of it is commonly recognized today as the chief cause of juvenile delinquency.

Wheeler states that even as early as the Carboniferous Period, beginning some 300 million years ago, the social tendency was

already prevalent among insects; that ants (and probably also wasps, bees, and termites—the last-named having evolved from cockroaches)—had their origin in the Cretaceous (about 120 million years ago), if not earlier; and that they have undergone no important structural modifications since the Lower Oligocence (some 30 million years ago), while their main structural and social peculiarities were completed by the beginning of the Tertiary Period, so that they have (as he puts it) been "marking time" ever since, or for approximately 60 million years. (Ref. 45)

The failure of insect societies to meet the requirements of the pyramid of life seems attributable to several causes.

First, it is a striking fact that, while insect societies do display that specialization of function which social life requires and always exemplifies through division of labor, they do it only through a concomitant specialization of *physical form* in their constituting elements, the individual animals themselves. It is as though the evolutionary process, having produced life in physical form, had then resolved that form into its organic parts, fractioned the parts minutely and uniformly according to kind, and given the fractions somatic liberation as physical organisms while retaining differentiation of form. Just as, in a physical organism, the specialized heart, liver, stomach, etc., are all distinguishable by form alone, so are the specialized constituting elements of an insect society distinguishable by form alone. Thus, a queen, a worker, a drone, a soldier, is always what it is by differentiated physical form, and it can seldom or never be anything else. This retention of differentiation of function-governed form is reminiscent of the constitution of physical organisms. It is fixed and unalterable once it has been assumed, and restriction of physical form cannot but determine conclusively both the physical and the mental activities of the individual elements, for it limits those activities specifically and irrevocably. The formally specialized categories thus become vitally necessary to the existence of the society, which is no more independent of any one of them than any one of them—or any single member of them—can exist and perpetuate its kind

independently of the society. An insect society therefore appears as an attempt to carry over into the psychozoic field a plan of organic integration characteristic of the physical organismal world.

So general is this rule that it may be said that the principal difference between an insect society and a physical organism is that, in the former, the constituting elements are liberated from attachment one to another by connective tissue.

Second, among insects (as is commonly the case in all the primitive stages of animal evolution), the male element is of slight, almost negligible, importance. It is not always even necessary to the perpetuation of the species, many primitive forms producing males only under exceptional circumstances. In marine fauna especially, the male may lead an inconspicuous, parasistic existence upon the female, while in insect life he is often merely tolerated and sometimes eaten after performing his function (e.g., the praying mantis). The insignificance of males in insect societies (the bees) has led us to adopt the word, drone, to indicate one who lives upon the labor of others, a useless member of society.

As the so-called higher forms evolved, the male element began to play an increasingly important role, until at last the males became larger than the females and assumed their protection.

In human societies the male element is dominant. While the matrilineal system of tracing descent is the only one recognized in some primitive human societies, virtually no example of a true matriarchate is known. And though the patriarchal system may constitute a stage of human social organization, it is a stage that becomes vestigial as it is outgrown.

The significance of the prominence of the male element in human societies appears to be that the male imagination, if not more active than the female, is at least of wider range. Woman has, indeed, played her full part; but environmental conditions as well as their physical characteristics have thrown both the culturally creative responsibility and the opportunity to exercise

it more upon the male than upon the female. Every means by which humanity has raised itself from savagery to the heights of civilization was first a thing of the imagination, and chiefly of the male imagination. Considering the relatively limited period—evolutionarily speaking—in which man is held to have existed (about a million years; compare the social insects) and the far shorter interval since the first dated event in history (less than 7,000 years from 4236 B.C.), what has been accomplished is truly remarkable. Humanity in general, and the male element in particular, has no cause to be ashamed of it despite the fact that its faults still are many and serious.

Third, all insect societies are of what Dr. Haskins has called the "familial" type, for every insect society is a grandiose family and nothing more. Consequently, while insect societies are civilized in the sense of living in what are as much cities to them are ours are to us (cities being the hall mark of civilization), they have never evolved an *atmosphere* of civilization which is both subject to change and transmissible to other like societies existing in a similar external environment. On the contrary, all insect societies are hostile to all others, even of the same species, and no social units more broadly constituted than the family have ever evolved from them.

To the present author, the foregoing appear to be the main reasons why insect societies which have passed from the migratory to the sedentary stage have been "marking time" for so many millions of years, and why they have no direct constructive value to the pyramid of life.

Insects are invertebrates, but man is a vertebrate and a mammal. Vertebrates of many kinds exhibit a gregarious tendency that causes them to associate in numerically large groups which (since they are not organized) cannot properly be called societies but which nevertheless may have a permanency extending over a considerable number of years. (Some other-than-social insects, too, may associate in non-familial groups of considerable size; but, from the ephemeral character of adult insect life, if for no other reason, such groupings are relatively short lived.)

In aggregations of the associative type, the great-group is no more essential to the existence of its individual members than the presence of any particular individual is to it. Every single member is free to join or leave the great-group at will. And, should the entire membership disperse, the great-group can be reconstituted and be like it was. The members of such associations therefore have psychosomatic freedom such as is unknown in insect societies. For none of them are specialized either in form or in function with respect to the aggregation, and all can exist in isolation from it and reproduce apart from it.

The great evolutionary achievement of human societies was the successful combination of the two types of aggregation. It was achieved by reducing the societal value of the family.

With insects, the family *is* the society.

With humans, the family is merely the social unit; the great-group supervenes, and the family is subordinated to it.

Nevertheless, the tendency toward the familial type of organization was not entirely suppressed in human societal evolution and its effects are discernible in human history in the propensity of clans, gens, and even peoples, to trace their descent from an actual or an eponymic ancestor and adopt the exclusiveness so characteristic of the familial type. This leaning toward the familial type may, however, be a manifestation of the power of the rule of like with like which governs the entire animate world in all its levels. It was not without evolutionary value, for it aided the establishment and preservation of distinct cultures, if not civilizations.

The long story of man's march from savagery to civilization needs no recapitulation here. It is essentially a story of achievement by cooperative effort. For it was by concerted effort that Stone Age man overcame the great and fearful beasts with which, as a carnivore, he competed for the flesh of those herbivores on which both fed. By concerted action man domesticated animals and became a herdsman, as, by concerted action, he became an agriculturist. Laboring harmoniously together, men built the

irrigation works which tamed the desert and from which as from a foundation the first great nations grew.

In this summation of the evolutionary process as it builds the pyramid of life, nations are accepted as individualized emergents in the sense of the two definitions given earlier in this chapter. They are held, moreover, to be true organisms and to constitute a level in the pyramid higher than and evolutionarily superior to that of the carnivores from which, through man, they emerged. There are many reasons for this acceptance which cannot be adduced here, but a powerful one (itself alone almost sufficient) is that to them the five principles of the pyramid apply *unchanged and with undiminished force.*

Nations, no less than plants and animals, (1) must assert and maintain territorial dominion, as international law long has recognized. Nations also (2) depend upon the prior and continued existence of their antecedent and sustaining level: that of the human animals which have superseded those other animals that once constituted the level of the carnivores. And as life rises from that level to the level of the nations, there is found to be the same (3) diminution of number, (4) effective identity of aggregate dominion, and (5) a vast increase in individual territorial dominion, all as compared to their individual human sustainers.

Beginning along the Nile and two rivers of Mesopotamia, nations evolved in many parts of the earth until at last they fulfilled the requirement that a level of the pyramid of life shall be world wide in extent. Nor were they long in showing responsiveness to the synergetic urge, for they soon began to attempt to create larger units out of smaller ones. That attempt consisted in striving to establish empires, or to expand through conquest and subjugation.

This effort was not without beneficial effects, for it aided in the spread of civilizations. Nevertheless, it was not in the line of the synergetic process. For, when nations conquer other nations and try to weld them into a unit, they violate the rule of like with like, or homogeneity. The unifying force is single,

external, and imposed. It is not multiple, inherent, and spontaneous. Consequently, empires are relatively short lived, sooner or later breaking down under the stresses and strains resulting from violation of that basic principle. (There may, indeed, be sufficient community of interest in some one particular phase of national life—such as uniformity of faith—to give an empire a false facade of solidarity. But even then, if racial or national diversities persist and are great in both kind and numerical representation, disintegration is only delayed.)

Modern thought is not without some apprehension of the power of the rule of like with like, for, despite the resounding slogan of "tolerance," there is a perception of the fact that not only racial but also religious and other ideological diversities, when wide enough and represented by groups so great in size as to be conspicuous, can create antagonisms disruptive of national harmony, even to the point of destroying national solidarity and threatening the very existence of the national characteristics. Especially well is this understood by sociologists who think of a nation as a spiritual entity.

In his book, RACE AND NATIONALITY AS FACTORS IN AMERICAN LIFE (Ref. 46), Professor Henry Pratt Fairchild emphasizes these points with clarity and refreshing sanity of view. Significantly, his final chapter is entitled: "The Indispensable Nation". Incidentally, he coins the useful adjective, nationalital, to correspond with the noun, nationality, as national corresponds with nation. (Ref. 47). For nations and nationalities are not always the same thing: a nationality can also be a nation only when it exercises territorial dominion, as Moses so clearly saw so long ago.

Time and again, empires have been built, only to fall apart when the compulsive force holding them together lost its power. If history has any evolutionary lessons for humanity, among them is that one which teaches that the way to evolutionary progress is *not* through empire-building.

That way can be discerned with clarity only when it is realized that the psychozoic world, like the physical organismal world, has its evolutionary determinants.

The time scale of the physical organismal world is basically geologic because geologic conditions determine climate, and climate, in the end, determines the character of existing physical organismal life.

The time scale of the psychozoic organismal world is basically psychologic, corresponding to the nature of its organisms. Since time immemorial, the life of man has been ruled universally by understandings of the world about him which actually are concepts of natural law. These determine the climate—the atmosphere—of civilization, first in its incipient stage as culture, then in its maturation and efflorescence. It is of record that this atmosphere has changed, and as it has changed, so has the character of the nations existing in it. In the evolution of psychozoic organisms there is therefore a succession of eras or ages comparable to those of the physical organismal world.

In the physical organismal world, the succession was the Paleozoic Era or the Age of Ancient Life, the Mesozoic Era or the Age of Reptiles, and the Cenozoic Era or the Age of Mammals.

In the psychozoic organismal world, the still incomplete succession is the Tribal Era or the Age of Magic, the Monarchial Era or the Age of Religion, and the Democratic Era or the Age of Science. The first and second of these intellectual eras or ages were discussed in Chapter II as those when man was (1) *over* the gods, and (2) when man was *under* the gods, and, finally, with the rise of monotheism, "under God". The third is that dawning age in which man is looked upon as *part of Nature,* like any other living thing.

Just as the Age of Mammals was crucial to emergent evolution in the physical organismal world, so is the Age of Science crucial to emergent evolution in the psychozoic organismal world. For democracy began in the commencement of the Age of Science.

In nations organized on democratic principles synergy seems at last to have found the particular kind of psychozoic organism through which it can build additional levels in the pyramid of

life. For the democratic principles of voluntary cooperation by the constituting elements, the preservation of their individuality, and their psychosomatic freedom, are basic principles of evolution as it operates on the social levels. And, regardless of what other, contrary reasons for it may be alleged, it is in these three principles that the high democratic sentiment of respect for the dignity and sanctity of human life and individuality are grounded. History's pages, from Athens onward, record the preeminence of democracies in this, so strikingly manifested in their sentimental regard for their battle casualties, wounded or dead.

The more nearly perfectly these three principles are incorporated in a political system (the integrating framework of national life), the psychologically stronger and healthier, as well as evolutionarily more progressive, must the nation be.

History records that, from democracy's first appearance in ancient Greece, in all those periods in which democracies have existed, they have been (as they still are) the outstanding nations of their time.

But history also records that, more than nations of any other kind, democracies can live together in peace and harmony. They, more than any others, therefore give promise of furthering the synergetic process by cooperating to form larger units out of smaller ones—larger units which may tend to take on an organic character such as can become permanent and so form a still higher level in the pyramid of life. It is immaterial if that tendency appears only as an expedient response to compulsion, for the evolutionary process itself is almost invariably compulsive.

(How strikingly alike are the circumstances which led to the formation of the Delian League under the leadership of Athens to hold back the Persian peril and those which, today, are leading to the unification of the European signatories to the North Atlantic Treaty under the aegis of America! A difference of high importance does, however, exist. In ancient Greece, the other signatories soon forgot the peril from which Athens had saved them: the Athenian Empire followed because Athens did not

forget. Now, it is unlikely that the co-signers with America will soon forget, and it is almost unthinkable that anything resembling an American Empire will ensue, even if they should forget.)

If the North Atlantic Treaty should—in the course of time and despite a host of difficulties, including the obstructions of those who oppose it—produce a regional supranational organism able to maintain itself in permanence, then the first member of a level of life higher than and (in the evolutionary sense only) superior to that of the nations will have emerged. (If anything better entitling it to be called organic than sentiment held it together, that great honor would belong of right to the already existing British Commonwealth of Nations.)

Meanwhile, the vision of One World is glimmering before us. It is the same vision which Moses beheld, and, when—in composing his allegory of the tower of Babel—he made his allegorical God to say, "nothing will be restrained from them, which they have imagined to do," he recorded his firm belief that memory and reason will sift man's evolutionarily constructive imaginings from the evolutionarily vain and fruitless and will find means to give them reality. Only, it appears that a level composed of regional supranational organisms must come first. For the influence of such factors as language, manners and customs, racial and historic ties, and even geographical propinquity, would appear to force such an effect: it cannot be ignored.

When, at last, the great Vision will have taken on reality, then our pyramid of life will have been brought to its apex. What will eventuate then none can foresee, no one can tell. It is veiled in the mists of time and the mysteries of emergence. Now, all we can know is this: that there is work to do, and all humanity must come at last to cooperate in the doing of it. And yet . . . the greatest obstacle of all is the psychological inertia of mankind.

How far, then, in the future must that evolutionary consummation lie! Century will follow upon century, and still it will remain what it was to Moses: a Vision of the Future.

But nothing, in the end, can prevail against it.

With this, our survey of life's evolution on this planet must end. But this chapter will have served its purpose if, from so brief, so cursory, so altogether inadequate a summary, the reader can see what alone it is meant to show: that the truly creative, evolutionarily constructive force is not that competitive, merciless struggle said to result in "the survival of the fittest" but is that force inherent in all living things (herein called synergy) which —expressing itself through emergence—has built and still is building the pyramid of life.

For those who may care to pursue the subject a little further, there follows a discussion of the application of emergent evolutionary terminology to the concept of the pyramid of life. It may be not without interest.

Dr. Wheeler, referring to the literature of emergent evolution, remarked that "no two authors agree in their lists of levels." But Dr. Wheeler himself is not altogether guiltless of confusion in the use of the term, level. Thus, his definition of emergence quoted earlier in this chapter indicates that it occurs in three different orders of reality, the inorganic, the organic, and the mental, which may be read to mean levels. But on page 208 of his Essays he says: "... organisms embrace no less than four disparate levels of emergence, the physicochemical, the organismal, the mental and the social." (By organismal he evidently means the physical organismal.) And on page 158 he says that instincts and conscious activities are among "the more complicated mental emergents." Then, on page 6 of the Essays, he gives his own hierarchy of organisms, listing seven and ending with the "true, or human society." All seven, he says, "are real organisms and not conceptual constructions or analogies." Since a hierarchy connotes levels of rank, we thus have Dr. Wheeler referring at different times to three, four, and seven levels, so considered either explicitly or by implication. This is rather amazing with an author who usually charms by his range of knowledge, clarity of thought, and sanity of view.

While haziness of conception leading to disagreement and

inconsistency is inevitable and, indeed, to be expected in the early stages of any broadly conceived concept, it must be dispelled if the concept itself is to receive widespread recognition.

There is but one way in which that can be done, and that is through the adoption of some regulating schematic classification which commands assent by its overriding rationality, regardless of whether or not it can at once dispose of by accounting for all minor details. And here it may be said that there is an evident tendency to make the term, emergence, too all-inclusive. It must be made more definite, or more strictly applied, than now seems to be the practice, when even predatism, parasitism, helotism, simple symbiosis and, indeed, biocoenoses, are called emergents. Rather are they simply relationships incidental to a way of maintaining existence among the living. It is difficult to see how instincts and conscious activities can be called emergents, too, though Dr. Wheeler does it. Emergence, it appears, ought to be more rigidly conceived of and defined. But the more immediate concern of this discussion is with the use of the term, level.

A systematic arrangement which, if found good, might help to clarify the use of that term is shown in the table following this chapter. It gives that term a *specific* sense, using it to designate the strata of the pyramid of life. These levels group themselves automatically into larger, *generic* units which are called realms. The concept of emergent evolution is thus made part of but subordinate to the far grander concept of the pyramid of life.

By this system, a realm is a group or class of emergents related generically by their common derivation from a basic unit (atom, cell, physical organism) and by their consequent common qualities (physical or non-physical embodiment of a characteristic kind, organic or inorganic.)

Each realm comprises one or more levels differentiated by their stage of removal from the basic unit of the realm, each level depending for its existence upon the prior and continued existence of its intervening, sustaining, and antecedent level: that one upon which it is superimposed.

Generally speaking, and at least in the pyramid of life, it is realms that emerge; it is levels that evolve.

As they are distinguished in this book, there are four realms: two in our own planetary pyramid of life, one below it, and (speculatively) one above it. The table therefore shows four Realms of Quality; how, through emergence, evolutionary gains are consolidated or capitalized as the end-product emergent of one realm becomes the basic unit of the next; and seven Levels of Quantity. Six such levels are either presently existing or are theoretic strata of the particular (mammalian) pyramid of life on this planet which is the main concern of this book. No. 7 is, of course, more purely speculative than is Realm IV itself.

To emphasized the role of emergence in the construction of our pyramid of life, the principal transition factors by which life rose out of inanimate Nature, and the main indicators of a pervading trend in the two succeeding realms of animate Nature, are also shown. (The magnesium-potassium, iron-sodium—Mg-K: Fe-Na—couplets are inserted because the first characterizes plant life and the second characterizes animal life.)

Realm I emerges into visibility out of invisibility: it has two levels: that of atoms, and that of chemical compounds, though, in a sense, neither can be said to evolve. Inasmuch as neither is directly part of the pyramid of life, they are not numbered in the table.

Realm II has been discussed at length in other chapters. It has three levels, shown in their structural requirement-fulfilling form.

Realm III has but one presently existing level, that of national social organisms. Levels 5 and 6 have not yet evolved, but there are enough historical trend indicants, both negative and positive, to permit their prediction with more than a little assurance. Such forecasting of evolution's course *within* a realm is permissible when its generic characteristics have become apparent. And the power to make predictions based on established principles such as the five found operative in Realm II and seen to carry over into Realm III without change is one of the signs of the coming of age of a science. (Ref. 48)

The five aforesaid principles are recapitulated here for the convenience of the reader. They are:

I. The Law of Territorial Dominion.
II. Dependence of superiors upon the prior and continued existence of their antecedent sustaining evolutionary inferiors.
III. Diminution of number.
IV. Identity of aggregate territorial dominion.
V. Increased individual territorial dominion in inverse proportion to diminution of number.

All these principles are exemplified by every existing level in Realms II and III. The assumption is that they will continue to operate in Realm IV. Whether they do or do not no human being ever can know. The assumption is not, however, entirely groundless. The whole evolutionary process seems to indicate that a major function of the orderly sequence of realms and levels is the successive refinement and concentration of sustenance-energy, which becomes ethereal AS IF in preparation for extension into the cosmos. And if life as we know it exists on thousands of extragalactic planets—as is now held to be not only possible but also probable (Ref. 49)—then the same function is being performed on them. For *life as we know it means pyramid-building life.*

When a planetary pyramid is brought to its apex, then there may be another transmutation such as occurs when plants transmute inorganic substance into organic, and when man transmutes the physical into the ethereal, thereby supplying his evolutionary superiors (nations) with the kind of sustenance they must have, the only kind they can use. Through a third such transmutation, vital energy may be supplied to life NOT as we know it. But this, too, will forever remain beyond the reach of the human intellect. On the basis of the general scientific concept, the cosmic Final One must be assumed to be some kind of deistic (not theistic) God-energy, as shown in the table.

It is conceivable that after the speculative God-energy has used the sustenance thus supposed to flow to it, there may be a residual reversion to Realm I as (perhaps) a scattering or dif-

fusion by radiation of the still unknown components of the known constituents of atoms. If so, then not only is the universe self-perpetuating, but it has something of the cosmic Final One in every particle of it, and that something causes an innate urge to return to unity which manifests itself as synergy and produces emergents.

This speculation is not inconsistent with Richard Chace Tolman's cosmological line element (or equation) representative of a universe which alternately expands and contracts. It is, perhaps, a breathing universe instinct with life.

* * *

Since this book relates to Moses and his Chosen People, whose spiritual if not racial descendants are the Jews, the following may be of interest, as a curiosity if nothing more.

Principle III (diminution of number) is symbolized by a triangle representing one face of the pyramid, thus:

Principle V (increase in individual territorial dominion in inverse proportion) can be symbolized by the same triangle inverted, thus:

When the second symbol is superimposed upon the first in artistic arrangement, the resulting figure is this:

This hexagram is of peculiarly Jewish usage. It is known among them as the Shield or Star of David. Its origin is lost in the mists of antiquity, as is the case with other ancient symbols (e.g., the cross and the swastika). One can only guess at its original significance, if any, for it may well first have been merely a pleasing artistic arrangement of lines without any particular significance. But if it can be related to Moses' lost Vision of the pyramid of life, then it ought, rather, to be called the Star of Moses.

For the principles which can be read into it—as they can also be read from it—were indeed the Guiding Star of Moses!

Table (to be read upward) Showing Schematically the WHAT and the HOW of EVOLUTION'S CAPITALIZING SYSTEM

IV Realms of QUALITY: Consolidation by Emergence: 7 Levels of QUANTITY

REALM IV Cosmic (Speculative)		(Residual reversion to Realm I ?) 7. DEISTIC GOD-ENERGY?
	End-product emergent:	? (Unpredictable)
	Transition mark(s):	? (Unknowable)
	Basic unit:	Life-bearing Planet (by thousands)
REALM III Psychozoic Organismal (Homogeneity)		6. APICAL PLANETARY WORLD ORDER. 5. REGIONAL SUPRANATIONAL ORGANISMS. 4. NATIONAL SOCIAL ORGANISMS (Democratic)
	End-product emergent:	Psychozoic Organism (human family-society)
	Trend indicant B:	Psychosomatic elemental freedom (mammalian gregarious association).
	Trend indicant A:	Somatic elemental liberation (insect society).
	Basic unit:	Physical Organism (animal).
REALM II Physical Organismal (Homogeneity)		3. CARNIVOROUS MAMMALIAN LIFE. 2. GRAMINIVOROUS MAMMALIAN LIFE. 1. HERBACEOUS PLANT LIFE
	End-product emergent:	Physical Organism (plant, animal).
	Trend indicant B:	Specialization of function and form.
	Trend indicant A:	Multicellular (colonial) association.
	Basic unit:	Unicellular Life.
REALM I Inorganic (Heterogeneity)	End-product emergent:	Unicellular Life.
	Transition factor C:	Enzyme
	Transition factor B:	Rich source of C, O, H, N (Mg-K: Fe-Na).
	Transition factor A:	Fixation of Nitrogen (azote) by radiant and electrical energy.
	Primary essential:	Chemical Compound.
	Emergent:	Chemical Compound (visible).
	Basic unit:	Atom (chemical element: invisible).

CHAPTER XXVI

"WATCHMAN, WHAT OF THE NIGHT?"

It has often been said as a final, clinching argument, that whatever charges may be brought against religion, the historical fact remains that all nations, all civilizations, have had some form of it. The implication—made explicit or just left to sink in—is that religion is a vital, indispensable element of civilized, national life, and that history proves it.

As a statement of historical fact, the assertion is undoubtedly correct. But to accept it as proving the indispensability of religion to civilized life is to agree to error. For all that history proves on this point is that all nations, all civilizations, and even civilized man himself, came into existence either with or in the Age of Religion, which is not yet definitively ended. Such being the case, it would be strange indeed if religion had not been an integral part of civilized life. (Whether the Union of Soviet Socialistic Republics will be an exception is not yet clear. Time will tell, and only time can tell.)

What so many fail to realize—and what must be repeated again and again—is that religion is basically a concept of natural law, and that for thousands of years it was the ruling concept of natural law. Growing out of the rise of civilization and reflecting national political organization in its then one and only form, religion developed concurrently with civilization (see Chapter II). Furnishing civilized man with an explanation of how and why the forces of Nature operated as they seemed to operate, it satisfied an imperious need of man in a way adequate to the intellectual development of the time.

Living in an external environment created and conditioned by natural forces, man simply had to have some kind of under-

standing of those forces in order to maintain himself amidst them. From this necessity came the grand conceptual schemes or understandings which were basic, first, to the Age of Magic, and, second, to the Age of Religion.

Magic had served the synergetic process by bringing men of force and character to the fore, to weld smaller groups into larger units and carry them through the stages leading to the evolution of nationalities. When "nationalital" units asserted and maintained territorial dominion over a specific geographical area, they became nations. From the phenomenon of national life religion arose—as a direct reflection of it. And when the great Egyptian conqueror, Thutmose III, formed the first empire, monotheism soon developed as a direct reflection of political imperialism.

A close, specific relationship it thus indicated between grand conceptual schemes which are basic concepts of natural law (as instanced in Magic and Religion) and political organization. That is to say: *Every basic concept of natural law has its political reflection or complement.*

In the Age of Magic, the chieftain or tribal leader was both priest and king. Early in the Age of Religion, the separation of the temporal and the spiritual powers occurred, and monarchy and religion became twin institutions, each of them exercising its own part of the one-time dual powers of the priest-king of the preceding Age of Magic. Monarchy, supported by a state religion, thus became characteristic of the Age of Religion.

Grand conceptual schemes relating to the operation of natural law are few. In all history there have been but three able to satisfy the needs of humanity at large and so become or tend to become universal. For a third such concept was born and began to make its way in the world despite all efforts to stifle it and render it ineffective. And it, too, has political reflections, or its complement in the political field.

This third grand concept of the operation of natural law is the same one which is fundamental to science today. Simply stated, it is that the forces of Nature operate by fixed, immutable, impassive, impersonal, and inexorable law, which nothing

can alter, deflect from its course, or influence in any way. This concept arose in ancient Greece, and its political complement there was democracy.

The history of science—of the growth of the scientific spirit of inquiry—is one of appearance, suppression, revival, repression, and reassertion with increasing strength and success in maintaining itself. That is also the history of democracy as a political system, for they are complementary phenomena.

The basic premise of science is incompatible with and antagonistic to the basic premise of religion in its original, Other Worldly sense. Consequently, there has been a conflict and a struggle for survival between them such as Draper and White have described. (Ref. 50).

This struggle for survival between the old and the new appears to be as characteristic of evolution in the mental or psychozoic field as it is of evolution in the physical organismal field. In the mental field there appears to be not only an overlapping of the influences and effects of the two contending concepts (for the old concept seems never quite to lose its power), but there may also be a sort of reconciliation between them despite their basic incompatibility. Just as a syncresis of verdure-worship (Osiris) and sun-worship (Re) was effected in ancient Egypt and still survives in Pauline Christianity, so was magic amalgamated with religion, much of which is of magical origin.

In a similar way, science and religion have been undergoing a gradual rapprochement despite their basic antagonism. But the only progress made in this direction has been accomplished by forcing an extension of meaning into the term, religion. The significance of this operation is not always realized.

By expanding its meaning, the term, religion, is made to cover and include any strongly held faith, even Communism, which is sometimes referred to as a religion. And this, when realized, ought to clarify the truth that it is not religion in its original sense which is an essential element of civilization and national solidarity but faith.

Uniformity of fundamental faith is, indeed, essential to national solidarity and stability. (Such uniformity is equally essent-

ial at any stage of cultural development.) But it is quite immaterial to national solidarity and stability what the faith may be. Any faith will serve if only it is held with effective uniformity.

The character—the kind—of faith is, however, of the greatest importance to the synergetic process. The tribal gods of the Age of Magic made for a tribal antagonism comparable to the hostile exclusiveness of insect societies. But the imperial tendency of national life in the Age of Religion led to monotheism, under which a national way of life tends to expand and become the way of life of a plurality of nations, or a general civilization.

Fundamental faiths from which civilizations can grow must have a national origin, and they cannot be at once numerous and basically diverse. Hence, other nations will adopt, even if they have to adapt, the faith and the way of life of an originator nation. Civilizations thus spread beyond their source, and they spread as spiritual atmospheres favorable to their own particular genus of political organization. That genus they must continue to support, even in periods of slow transition from age to age. For a threat to the existence of either of them—the genus or the faith—is a threat to the vitality of the other, its reflection or complement.

The struggle of democracy to survive and spread has been long and hard because civilization has had a religious basis favoring monarchy. But it is an encouraging historical fact that civilizations as spiritual atmospheres are subject to change, for mind creates them and mind can change them.

The kind of faith ruling a nation is vital to synergy because it determines that nation's status with reference to other nations and so to progressive evolution. Nations ruled by magic (could such exist) would be primitive and archaic. Those ruled by religion are now (and for some time have been) evolutionarily static, just as theology is static. Only nations organized on democratic principles are dynamic and progressive, in the evolutionary sense if in no other. For democratic nations, basing their very way of life upon the three principles of voluntary cooperation, psychosomatic freedom, and the preservation of individual-

ity, must honor and respect other nations founded on the same principles, and make that fellow-feeling a governing rule in their international relations. That is why they fit into the evolutionary process as no other genus of nation does or can.

Of all this we have ample proof, yet we do not realize that the principle of like with like operates not only in domestic affairs but also in international relations.

The horrors of the Russian Revolution; the mass murders committed by the Communist Party in Russia; the ruthless enforcement there of slave labor, literally working human beings to death by starvation and exhaustion; the completely amoral aggressions of the U. S. R. R.; and Communism's open hostility toward democracy everywhere in the world, have caused a revulsion of feeling in this country which has produced effects both favorable and unfavorable to progress in the field in which evolution now most actively operates: namely, the mental or psychozoic.

On the one hand, because Russian Communism is avowedly atheistic, this revulsion has given rise to a "back to the churches" movement.

On the other hand, it has caused a growing perception in educational circles and elsewhere of the vital need for greater emphasis upon the humanities, with the specific purpose of lifting them to at least a parity of authority with the physical sciences, and to a position of greater authority if it can be done.

Both of these effects seem to be expressions of a realization frequently voiced in the beginning years of World War II: that "what the world needs today is a spiritual rebirth for the regeneration of mankind." These voices in the wilderness died down when it became apparent that grand conceptual schemes are not made to order. None was forthcoming, and the voices soon subsided, falling away into silence.

Of the two effects noted above, the first—if successful—would be regressive: to go "back to the churches" would be just that, a going back.

The other effect, if brought to fruition, would be progress-

ive: a going forward, and on evolutionary lines. But it cannot be successful unless it can ground itself in and rise from a better understanding than we now have of the operation of natural law as it governs biological evolution, including history. And it is clear that the improved concept must be grand enough in scope, consonant enough with fact, and inspirational enough in its implications, to be able to generate a faith involving both reason and the emotions, and equal in power in that respect to any previously known, if not of greater power.

All these requirements are met by the concept of the pyramid of life implemented by the synergetic process that was born in the mind of Moses and has been outlined in this book.

It has its categories of sins: whatever by thought, word, or deed may deleteriously affect the spirit, mind, or body of one's self or others, or which may set private advantage above the public welfare. Its historic unforgivable sin is treason.

It has its duties and responsibilities, the obverse of its sins: the cultivation of a sane mind in a sound body, and the promotion of the public welfare with heart and mind and soul.

It has its standards of conduct: the observance of the two greatest commandments by being, first and foremost, a patriotic national, while yet practicing the Golden Rule in all affairs on whatever scale.

It makes demands on virtue: the "perpetual substitution of being for seeming." (Ref. 51).

It requires valor, which "consists in the power of self-recovery, so that a man cannot have his flank turned, cannot be outgeneralled, but put him where you will, he stands. This can only be by his preferring truth to his past apprehension of truth, and his alert acceptance of it from whatever quarter; the intrepid conviction that his laws, his relation to society, his Christianity, his world, may at any time be superseded and decease." (Ref. 52).

It has its rewards, in the spread of altruism all the way from personal relations to international affairs, the glow of the heart that comes with the consciousness of a good deed well done,

and the well deserved recognition of an honest and efficient performance of public duties.

So one might go on almost without end, for there is no phase of existence, public or private, which the concept does not reach. But enough has been said to indicate the possibilities of application to ethics and morals. As for the emotions, they soon become involved. And many of the great scientists have testified to the aesthetic uplift that comes with the perception and contemplation of universal laws, including those governing evolution, such as the concept of the pyramid of life embraces.

Furthermore, when rightly understood, the concept does not require repudiation of that just and proper pride of race or nationality which Nature itself has implanted in the human heart and of the possession of which none should ever be ashamed. A manifestation of the social tendency which, together with mind, is a correlate of all life; more rarified and unsubstantial even than cellular surface tension yet powerful as any gravitational field, it serves to maintain those national peculiarities which constitute both the differentiated internal environment and the integumenting medium which nations, as individualized, living emergents, must have. He who never knows such proper pride is a lost soul indeed!

Our revulsion against the horrors of Russian Communism (not one of which can legitimately be charged to atheism) must not be allowed to stand in the way of our advance upon the psychozoic evolutionary road. It leads on beyond religion to open and avowed secularism. For secularism gives formal recognition to a grand biological fact exemplified by men and nations everywhere, whether they know it or not.

America early set its feet upon that evolutionary road and certified to the fact by adopting the First Amendment to the Constitution (1791). In so doing, it became the first nation in more than 1400 years, or from soon after the reign of Constantine, to reject the firmly held assumption that religious uniformity is essential to national solidarity and stability. (Ref. 53). Instead, it boldly asserted that religious belief, or the lack of it, is not of public concern, or even interest.

The influx of vast numbers of immigrants, who brought their religions with them, had the effect of reviving the threat of religious dissension in American national life, where it smoulders even now and may yet break into flame. Nevertheless, the trend away from religion, though slowed, has not ceased. Today, approximately half our population is without any religious affiliation whatever, and many of those who profess religion go to church but twice a year—at Christmas and Easter.

The American rejection of religion as an indispensable element of national solidarity and stability has been recorded not only in the Constitution but also—and in more solid form—in architecture. For the only marked advance in architecture since it froze in the Gothic cathedrals of medieval Europe was made in America, where it produced the famed skyline of New York, now duplicated on a lesser scale in other cities of this land.

Those who have read with admiration Victor Hugo's deservedly famous chapter on architecture serving through the ages as impassive and infallible recorder of the faiths and feelings of mankind (see Appendix II), will recognize in that freezing a recording of the stagnation of religion, and in "the skyline of New York" an entry in the great stone book registering the fact that, in America, the spirit of man is no longer centered upon the Other World of religion but has turned to the business and affairs of This World, the world of the here and now. It has come "home to the instant need of things." By so doing, it has created the highest general level of living ever known. Yet America has exhibited an altruism that has never failed to render succor in time of disaster anywhere in the world. Its heart (to use the ancient Egyptian expression) has not hardened. How soon have some of the fruits of an advance towards secularism been reaped!

The Great Seal of these United States (shown on the back of the One Dollar bill) bears on its obverse the synergetic motto: E Pluribus Unum (Out of Many, One), and on its reverse a motto expressive of the forward-looking hopes of the Founding Fathers: Novus Ordo Seclorum (in syncope, A New Order of the Ages).

The hopes of the Founding Fathers have become the hope of the world. For only when democracy is general will the reign of peace on which the hearts of men are set be possible. Yet democracy, the political complement of the third and last of the grand conceptual understandings of the operation of natural law, has not yet become universal. Its age is but dawning in the universal spirit of man. Born in the West, a product of the Western mind as religion is a product of the Eastern, it still is strictly a Western phenomenon. The duty to guard it, perfect it, and advance it everywhere as best we can is not a duty to be shirked.

As we come to realize these truths, what shall our attitude toward them be: antagonistic or cooperative, obstructive or synergetic? Shall we set about it intelligently to benefit from them more fully than we already so fortunately have?

If so, we will advance spiritually to keep pace with the political and material advances we have made and which we hope to continue and to improve.

For history has three principal aspects or phases: the material, the political, and the spiritual. These act and react upon each other and tend, in the course of time, to reach a common level of development. The world suffers "a time of troubles" when any one of them lags persistently behind the others, as is the case today. For great advances have been made in the material aspect, and quite considerable in the political. But, in the spiritual aspect, little or no advance has been made by the great majority of the world's population since the time of the ancient Egyptians, some 5,000 years ago, when religion in its Other Worldly sense was devised and formalized. New and other religions have arisen, but, in essence, they are merely variations on the original theme.

Such a spiritual advance as is required can be registered in but one way: the institutionalization of secularism as our ruling faith, embodied in a majestic ritual in which all can participate with manly, upstanding dignity and a just and heartfelt pride. Through such institutionalization the great spiritual hunger to "belong" which all men feel so strongly can find its most perfect satisfaction as the very cause of it supplies its natural needs.

If we do not cooperate with this evolutionary trend, then we shall be inviting evolution to do to us what Moses (without any added religious terminal clause) so rightly declared it is always doing to those who fail it: "visiting the iniquities of the fathers upon the children unto the third and fourth generation." (Ref. 54).

* * *

How wise a man was Moses! Even in that far off time he was an evolutionist. Chance made him one. But thought made him more. By taking thought he added to his intellectual stature. He built a Vision of the pyramid of life. It made him the Seer of Secularism and a mighty Prophet of the Faith of the Future.

Out of what he did to give his Vision reality came the ancient Hebrew nation, Jesus of Nazareth, and the Bible. Yet Moses was a failure.

Both Moses and Jesus were failures. Neither accomplished his purpose. Both were rebels, nonconformists, innovators. The fate of such was theirs.

After them came Paul the Apostle. Success was his. For —blind to the Vision but conforming to the spirit of the age—he founded the Christian Religion.

Democracy arose, "a little cloud out of the sea, like a man's hand." Under it glowed the false dawn of "a new order of the ages," only to die in the spiritual darkness not yet ended. (It shone in that darkness, but "the darkness comprehended it not.")

And now?

America . . . the First Amendment . . . free enterprise . . . "the skyline of New York" . . . the highest general level of living ever known . . . a growing awareness among the established democracies of compulsions demanding international cooperation favoring the evolution of supranational organisms . . . and a democratic ferment working here and there throughout the world!

Is it the true dawn of the new age, the age of the grand Mosaic Vision, beginning to take on reality at last?

That it may be is indeed the hope of the world.

POSTSCRIPTUM

IS IT GOOD SCIENCE?

That a pyramid of life exists wherever there are carnivorous animals is axiomatic. But the term, carnivorous, now applies not only to eaters of good red meat but also to habitual predators of every kind, even among what are commonly called insects, meaning the terrestrial arthropods in general. The result is that a number of pyramids of life can be differentiated, although it is doubtful if any one of them is completely independent. In aquatic life, one can be distinguished among the marine arthropods and another among the fishes. Upon the dry land, there is one for the birds and another for the reptiles (all snakes are purely carnivorous). Hence, it is certain that the question will be raised: Are the principles of construction which have been developed in this book universal in application, being valid in all those various pyramids without exception?

Especially may their validity be challenged by the entomologist. Is it true (he may ask) that diminution of number and its corellate, increase in extent of individual territorial dominion, apply to insects as compared to the vegetation on which they feed? And he may warningly bid us consider the hosts of suctorial insects (such as the aphids) which may gather upon the tender shoots of one plant; the numerous borers penetrating and living within the woody parts of a single tree; the numberless leaf miners, cutters, and chewers attacking its foliage. He may even point to those ravagers, the locusts, which can utterly destroy the vegetation of area after area and survive to perpetuate their kind. Do the principles of diminution of number and extension of individual dominion hold good for all this insect life, which also has its predators?

Taking the problem of the insects as typical, three answers

can be given. Two of them are somewhat in the nature of avoidance and therefore not entirely satisfactory. But the third answer meets the question squarely and is deemed sufficient. It has a general pertinence.

First, it may be said that (barring birth and death) it is extremely doubtful if any broad biological generalization can be made which has no exceptions. Nevertheless, such generalizations are made and they often prove of great value. The Mosaic concept has value even if it should prove to have exceptions.

Second, many insects are actually parasites, internal or external, and all parasites are ruled out by the multiple consumption requirement, which is aimed directly at them. For parasites are evaders of the battle of life and refugees from its contentions; they obey no rules and rules must rule them out. This greatly reduces the number of insects which have to be considered.

Third, the principles developed in this book derive mainly from a study of the pyramid of life whose herbivorous and carnivorous physical organismal levels are composed solely of warm-blooded, earth-bound, vertebrate animal life (roughly, the mammals), and it is immaterial whether those principles apply to other, lesser pyramids of life or not. All those other pyramids can be disregarded if we wish to do so.

It may be objected that this third answer is just plain particularization, which is not scientifically permissible, for general rules cannot be drawn from one particular case. In Moses' day, little or nothing was known of insects except as pests, and all the lesser, furtive forms of animal life were dismissed as vermin. Hence, while Moses did actually particularize when he concentrated upon one single pyramid, he did it unconsciously and in forgivable ignorance. Particularizing was excusable in Moses' case. But we of today may not plead ignorance, and, in our case, particularizing cannot be condoned.

In rebuttal, it can be said that it is not ignorance which justifies particularization for us of today but, on the contrary, greater knowledge of the evolutionary process. This counter-

claim requires substantiation: reasons for it must be given, and they must be sound.

Exactly as Moses sought understanding long ago, and, having found it, embodied it in his Vision, so is humanity seeking understanding today, but without yet having found it. For the great Mosaic Vision is a lost Vision. And all too few realize that—since the search boils down to the question of whether or not life has meaning—it is basically a problem in philosophical biology. Especially does it relate to the grand evolutionary process.

Principally, the questions awaiting definitive answers are: Is biological evolutionary progress factual or is it illusory? If it is factual, what are the proofs? If it can be proved, how can it be measured: by what criteria is it to be gauged? And—most important of all—TO WHAT DOES IT LEAD?

Were the idea of evolutionary progress proved illusory, the effect upon humanity might well be disastrous. The larger altruistic spirit would be killed; sheer might would be right, morally and materially; and a lowering of all standards would result.

If, however, the reality of evolutionary progress could be proved scientifically, the resultant positive effects for good would be immense. For the first time, the world would have a scientifically sound basis for a grand philosophy involving all mankind, one equal in power to any Oriental religion and one calling upon all men to join in the great work of furthering demonstrable natural law as it builds toward a specific End.

The vision of One World has risen, glimmering before us. But there cannot be truly one world unless there is one basic philosophy. For one basic philosophy to conquer the world, it must be firmly, indisputably, demonstrably rooted in natural law and expressive of it. Only then can the social sciences rise to at least a parity of authority with the physical sciences, the imperative need for which as a controlling force is increasingly being recognized in educational circles and elsewhere. For the social sciences all have a biological basis and are related to the evolutionary process. The lag of the social sciences is due directly to the failure of biology to find meaning—the full equivalent

of purpose—in the evolutionary process. The solution of no other problem could so profoundly and beneficially affect the life and thought of mankind. On it depends the possibility of the ultimate realization of the One World ideal, with all its imaginable and—for us now—unimaginable blessings; or, negatively, the earlier destruction of civilization, followed by its slow and painful rebuilding through centuries to come.

The questions concerning evolution specified above are not academic questions. They are pragmatic questions.

Now, despite the fact that many biologists of distinction deny that there is or can be anything akin to purpose in the evolutionary process, it is logical to hold that progress, *as such,* cannot be distinguished from regression on the one hand or aimless motion (in the biological form of mere change) on the other until and unless some end, objective, or purpose is known or can be deduced rationally from what is known, for the very word, progress, has such implication. But, in the evolutionary process, end, objective, and purpose all amount to the same thing: they are effectively identical.

It was for this specific reason that the claim was made in Chapter IX that the principles of the Mosaic concept give meaning to the evolutionary process as no other principles do or can. For that concept first establishes a set of principles and then uses them to adumbrate an End toward which evolution inevitably works, that End being the Final One of diminution of number. The concept shows how progress toward that End has been and is being achieved: by numerable, clearly differentiated steps or stages which are the successively superimposed levels, realm by realm, of its pyramid of life. (The more steps, the greater the progress.) Its principles of diminution of number and increased extent of individual dominion are forcefully expressed in the familiar aphorism, "The higher, the fewer," which sums them up succinctly and well, so general are they as rules of life.

Any concept doing what the Mosaic concept does is worthy of serious attention in any case, but the specific charge that it results from particularization and can therefore have no scientific standing is itself untenable. For the evolutionary process is

essentially a process of particularization, and biological opinion concerning it encourages resort to particularization as a method in the search for proofs of progress.

The well known biologist, Julian Huxley, is representative of a considerable body of biological thought. Thus, he reflects the attitude of many of his fellow professionals in refusing to concede that purpose exists or can exist in evolution. On page 576 of his book, EVOLUTION, THE MODERN SYNTHESIS, he says: "The purpose manifested in evolution, whether in adaptation, specialization, or biological progress, is only an apparent purpose. It is just as much a product of blind forces as is the falling of a stone to earth or the ebb and flow of the tides. It is we who have read purpose into evolution as earlier man projected will and emotion into inorganic phenomena like storm and earthquake. * * * Purposes in life are made, not found." (Ref. 55).

But on page 564 of the same volume, Huxley says: "A word is needed here on *the restricted nature* of biological progress (italics supplied). We have seen that evolution may involve downward or lateral trends, in the shape of degeneration or certain forms of specialization, and may also leave certain forms stable. Further, lower types may persist alongside higher, even when the lower are representative of a once-dominant group that includes the higher types." And on page 558 we read: "The task before the biologist is not to define progress *a priori,* but to proceed inductively to see whether he can or cannot find evidences of a process which can legitimately be called progressive. *It may just as well prove to be partial as universal. * * * Thus evolution may perfectly well include progress without being progressive as a whole."* (Italics supplied.) Finally, on page 562, Huxley says: "We must also remember that in evolutionary history we can and must judge by final (sic) results."

As an eminent biologist, Huxley is presumptively representative of the accepted consensus of professional opinion. And when (as the foregoing excerpts clearly indicate) he concedes that biological progress can be partial, he is, in effect, endorsing

particularization as a method. Resort to it is perfectly proper in the search for "evidences of a process which can legitimately be called progressive." How else can the partial be distinguished?

As for evolution itself, who will dispute that its grand march came eventually to be along the particular line of warm-blooded, earth-bound, vertebrate animal life? Surely, none who, for whatever reason, believe that, in the end, mind is what rules the universe.

For these reasons, concentration upon one pyramid of life (especially one towering above all others); the working out of its principles of construction; and the proclamation of them as revelatory, even if they should not have universal validity (which is *not* admitted), cannot be denounced as *ipso facto* bad science.

Whether the principles of construction discoverable in that most imposing of all the biological pyramids hold good for lesser, subsidiary ones is not of consequence to the proof of the factuality of biological evolutionary progress, the demonstration of its character, and the establishment of criteria by which it can be measured.

It must be remembered, however, that while particularization is a scientifically sound method when used for a specific purpose, it is particularization, nevertheless. Hence, while the investigator may resort to it for good and sufficient reasons, sight must not be lost of the fact that all the pyramids of life are actually so interrelated, so interacting, as to be—on the larger view—but parts of one great whole.

That whole is a living thing: it must be sustained, and it is sustained in various direct and indirect ways. To its continued existence lesser, auxiliary pyramids contribute. The close relationship between plants and insects, for example, is too well known to need more than mention here by way of illustration. Not only insects, but also birds, reptiles, rodents, scavengers, and saprophytes, all help maintain that balance of Nature on which the entire biological structure depends.

* * *

There is a suggestive analogy between the grand, mammalian pyramid of life, the great biological pyramid, and the architec-

tural pyramids of ancient Egypt. It is, to be sure, only an analogy, yet it has an illuminative value which may assist in the understanding of particularization in the evolutionary process.

It is that neither kind of pyramid was perfect in the beginning. Both developed by slow stages from earlier, cruder forms. And both attained their grandeur through a change in the *materials* of which they were constructed. In each case, that change required the observance of more strict, exacting principles. In the one case they were engineering principles; in the other case they were biological principles. In neither case could those principles be violated with impunity.

For untold centuries, the building materials in general use in ancient Egypt were clay, wood, and wattle, and the earlier structures serving the purposes of the later pyramids were built of clay in the form of brick. Then: "In the Thirtieth Century B. C., Imhotep, a Grand Vizier of the Third Dynasty, transmuted the clay and wood and wattle buildings of his age into massive stone and created the first stone architecture." (Ref. 56).

It was the change in structural materials, beginning with Imhotep's innovation, that made possible the great Egyptian architectural pyramids which stand today.

Similarly, from far back in evolutionary history, pyramids of life did, indeed, exist. But it was the change in structural materials, beginning with the commencement of the Age of Mammals, that made possible the great biological pyramid which stands today.

What stone was to the architectural pyramid-building of the ancient Egyptians, and especially the builders' preference in stone, the distinctive seven cervical vertibrae of those favored mammals, the hoofed and the fissiped placentals, were to the pyramid-building of the evolutionary process.

It was, indeed, from one particular pyramid of life that Moses drew his principles. And it is, indeed, in that same pyramid of life that they are best to be seenin operation today.

To find them in that one particular pyramid is enough.

Whether they do or do not apply with equal validity to such

lesser, auxiliary pyramids of life as can be differentiated can neither add to nor detract from their power to establish the factuality of biological evolutionary progress, reveal its character, furnish criteria of measurement, and indicate its future course. For they suffice to show that there is a discernible End toward which the process works.

Slowly, by the operation of those blind forces to which Huxley alludes, life forms capable of perceiving that End have been evolved, but the final results have not yet been achieved. It is still a continuing process.

What Moses would have us realize as we have never realized it before is that, in evolution's still continuing process, the time has come when the operation of blind forces must be supplemented by the action of forces no longer blind but endowed with intelligence and imagination, or forms of life able to dream dreams and see visions. Repeatedly he tells us that the seventh creative day is now, in that evolutionary age which is the Day and Age of Man, creative bearer of the Cross of Life.

It may not be amiss to comment briefly here on the nature of the Final One of the pyramid of life, whether planetary or cosmic. For some may feel that the concept is seriously at fault in not being more definite with respect to such entities, desiring to have them described with greater clarity and precision. That, however, is not possible.

From where we human beings stand in our own pyramid of life, its adumbrated apex or Final One has the appearance of being a World Order such as is indicated in the table on page 199. But whether it will be precisely such an emergent or something more, with characteristics and qualities such as we cannot anticipate, is not at all certain. We must remember that it is impossible to foretell what an emergent will be from knowledge of its constituting elements, especially in its end-product stage.

Who, for example, knowing hydrogen and oxygen only as gases, could foretell that water would be produced as an emergent from their combination in certain specific propor-

tions? (How long it was before man knew that water is merely those two gases in combination!) Or who, knowing life only in simple, unicellular form, could predict that, from cellular interaction in harmonious cooperation, such a vast range of diverse forms of multicellular life as the physical organisms of the entire vegetable and animal kingdoms would emerge? (It was long, indeed, before man learned the simple truth of the common, cellular basis of all those manifold forms of life.) And who, knowing only solitary insect life of the breed-and-die type, or humanity in its earliest food-gathering stage, could have foretold the emergence of insect societies, or the grandeur, the splendor and power, of Egyptian national life? (How short is the time since man began to understand how such things could evolve, and how many among us do not understand it even now!)

As we try to extrapolate the character of the Final One of our own planetary pyramid, we may reason it out from what truths we have discovered (as, indeed, we must); but there is not and there cannot be any assurance that what we may anticipate will in fact eventuate and be exactly what reason may lead us to expect, and nothing more. For "Nature is without reason and above it," and nowhere more so than when producing emergents and carrying them on into their end-product stage, in which the apex or Final One of any pyramid of life is bound eventually to be.

Hence, if difficulty in trying to visualize the fully-developed emergent form and character of our own planetary pyramid's Final One is experienced, that is more as it should be than otherwise. And if this be so with respect to our own pyramid's Final One, how much more must it be so with regard to that ever-living, self-perpetuating entity, the cosmic Final One! The process of diminution of number does, indeed, imply an Ultimate Unity having all the concomitants of ultimate superiority. But that is all that we can know. Nothing more can be stated with assurance.

Far from rendering questionable the validity of the concept developed in this book, all such inabilities to give clarity and

precision are, rather, testimonies to its authenticity, its fidelity to truth.

This is no more than to say that with respect to the understanding of those most elusive of all phenomena, life and its correlates, there are limits beyond which the human mind cannot pass. And with that it seems wise to rest content.

Perhaps this is what Moses meant by that double portraiture of God in which he is shown as defender of Heaven against man's endeavors to possess it: that, for us, perfect understanding is impossible, wherefore we should devote all our energies to the performance of the role assigned humanity in the pyramid of life, a role which we *can* understand: that of creator and sustainer of nations which, through their harmonious cooperation, will carry further the grand, synergetic process.

APPENDIX I

THE BURIAL OF MOSES

By Nebo's lonely mountain,
  On this side Jordan's wave,
In a vale in the land of Moab,
  There lies a lonely grave.
And no man knows that sepulchre,
  And no man saw it e'er;
For the angels of God upturned the sod
  And laid the dead man there.

That was the grandest funeral
  That ever passed on earth;
But no man heard the trampling,
  Or saw the train go forth:
Noiselessly as the daylight
  Comes back when the night is done,
And the crimson streak on ocean's cheek
  Grows into the great sun;—

Noiselessly as the springtime
  Her crown of verdure weaves,
And all the trees on all the hills
  Open their thousand leaves;—
So without sound of music
  Or voice of them that wept,
Silently down from the mountain's crown
  The great procession swept.

Perchance the bald old eagle
  On gray Beth-Peor's height,
Out of his lonely eyrie
  Looked on the wondrous sight;
Perchance the lion stalking
  Still shuns that hallowed spot:
For beast and bird have seen and heard
  That which man knoweth not.

But when the warrior dieth,
  His comrades in the war,
With arms reversed and muffled drum,
  Follow his funeral car;
They show the banners taken,
  They tell his battles won,
And after him lead his masterless steed,
  While peals the minute-gun.

Amid the noblest of the land
  We lay the sage to rest,
And give the bard an honored place,
  With costly marble drest;
In the great minster transept,
  Where lights like glories fall,
And the organ rings and the sweet choir sings
  Along the emblazoned wall.

This was the truest warrior
  That ever buckled sword;
This the most gifted poet
  That ever breathed a word;
And never earth's philosopher
  Traced with his golden pen
On the deathless page, truths half so sage
  As he wrote down for men.

And had he not high honor?—
  The hillside for a pall;
To lie in state while angels wait,
  With stars for tapers tall,
And the dark rock-pines like tossing plumes
  Over his bier to wave;
And God's own hand, in that lonely land,
  To lay him in his grave;

In that strange grave, without a name,
  Whence his uncoffined clay
Shall break again—oh, wondrous thought!—
  Before the Judgment Day;
And stand with glory wrapped around
  On the hills he never trod,
And speak of the strife that won our life
  With th' Incarnate Son of God.

O lonely grave in Moab's land!
  O dark Beth-peor's hill!
Speak to these curious hearts of ours,
  And teach them to be still.
God hath his mysteries of grace,—
  Ways that we cannot tell;
He hides them deep, like the hidden sleep
  Of him he loved so well.

By Mrs. Cecil Frances (Humphrey) Alexander. An Irish poet born in County Wicklow in 1818; died in Londonderry, October 12, 1895. Best known as a writer of hymns and religious poems. "The Burial of Moses" is her most famous poem.

How beautifully has Mrs. Alexander stressed in her poem the great loneliness which must have been Moses' only companion!

APPENDIX II

For the benefit of readers who may not have immediate access to Victor Hugo's novel, NOTRE DAME DE PARIS, the following excerpts from Book V, Chapter II, thereof are given, together with some comments by the author of the present volume. Hugo's chapter is entitled, "This Will Kill That," for reasons made clear by the portions quoted.

"From the beginning of time to the fifteenth century of the Christian era, architecture was, in truth, the great book of humanity, the chief expression of man in his various stages of development, whether as a physical or an intellectual power.

"When the memory of the early races became overcharged, when the store of remembered things grew so weighty and confused that the bare, flying verbal record risked losing part of it upon the way, man began to transcribe his recollections in the manner that at the same time was the clearest, most durable and natural. Every tradition was sealed beneath a monument.

"The earliest monuments were portions of rocks 'which the iron had not touched,' says Moses. Architecture began like all writing. There was first the alphabet. A stone was set up, and that was a letter, and every letter was a hieroglyph, and every hieroglyph supported a group of ideas, which were like the capital to the pillars. And similarly, and at the same moment, did all the early races over the whole surface of the world. The Celtic 'Cromlech' is found in Asiatic Siberia and the pampas of America.

"Later on words began to be formed. One stone was placed above another, the granite syllables were linked together, and the best attempted certain combinations. The Celtic dolmen and cromlech, the Etruscan tumulus, the Hebrew galgal, are proper names. Occasionally, when there was plenty of stone

and a wide area, a whole sentence was constructed. The immense pile at Karnac is a complete formula."

* * *

"During the first six thousand years of the world's existence, from the immemorial date of the earliest Hindoo pagoda to that of Cologne cathedral, architecture was therefore the chief writing of the human race. And so true is this that not only every religious symbol, but every human thought finds a page in this vast monumental book."

* * *

"Omitting the detailing of a thousand proofs, and a thousand objections to what has been said, we may sum the matter up as follows:—That architecture, up to the fifteenth century, was the chief registry of humanity; that during this interval, no thought of any complexity appeared in the world that was not built into an edifice; that every popular idea, as well as every religious commandment, had its monument; that human nature, in short, had no thought of importance that it did not write in stone. And why? because every idea, whether religious or philosophic, is concerned with being perpetuated. The idea that has stirred the emotions of one generation desires to affect others, and to leave its trace behind. And the immortality of the manuscript, how precarious it is! An edifice is a book of very different solidity, durable and resisting. To destroy the written word, we only want a torch and a Turk. To demolish the constructed word requires a social revolution or a terrestrial upheaval. The barbarians passed over the Coliseum, the deluge, perhaps, over the Pyramids.

"In the fifteenth century, everything underwent a change. Humanity discovered a means of perpetuating thought more lasting and durable than architecture, and even simpler and easier. Architecture was dethroned. To the stone letters of Orpheus are to succeed Gutenberg's letters of lead."

* * *

"In the form of print, thought becomes more imperishable

than ever; it is winged, intangible, indestructible. It mingles with the air. In the days of architecture it transformed itself into a mass of stone, and took forcible possession of an age and a place. Now it is turned into a flock of birds, winging its way in all directions, and occupying at the same time every corner of air and space."

* * *

"From the moment, therefore, that printing was discovered, architecture gradually lost its vitality, declined, and became denuded."

* * *

Architecture, he says, is dead; and, though it may have a *excellence,* social, collective, supreme." Even should it have a revival here and there, it will never again be "the art *par* revival, "it will not again have undivided power," but will have to share with literature, and the position of the two arts will be reversed.

"* * * During the architectural period, poems, which were rare it is true, resembled monuments. In India, Vyasa is as multifarious, strange, and impenetrable as a pagoda. In Egypt, poetry, like the buildings, is majestic and composed in outline; in ancient Greece, it has beauty, serenity, calm; in Christian Europe, religious majesty, homely simplicity, the rich and luxuriant vegetation of an age of renewal. The Bible may be compared to the Pyramids, the Iliad to the Parthenon, Homer to Pheidias. Dante, in the thirteenth century, is the last Romanesque church; Shakespeare, in the sixteenth, the last Gothic cathedral.

"To sum up this unavoidably brief and imperfect sketch—the human race has had two books, two registers, two testaments—architecture and printing, the Bible of stone and the Bible of paper. As we contemplate these two Bibles, lying open for us through the centuries, we may be allowed, perhaps, to regret the visible majesty of the granite writing, those colossal alphabets composed of colonnades, pylons, and obelisks, those, as it were, human mountains which have covered the face of

the earth from ages past, from the pyramid to the steeple, from Cheops to Strasbourg. The past should be studied on these marble pages; as we turn the leaves of the architectural book we cannot cease to admire, but for all that we must not deny the grandeur of the edifice erected in its turn by printing."

As we come to the close of this impressive chapter, this magnificent survey of architecture serving through the ages its office of recorder, we feel that here, indeed, we have been (as Emerson might say) "invited into the science of the real." And we are willing to overlook the faults of an exaggerated exuberance in the presentation of a thought at once so splendid and so true, for it is in the grand manner of a master. Errors of then unknown historical detail do not diminish its grandeur nor alter its truth, which are general and for all time. Only, we may regret that the master, writing more than a century ago, could not live to see how valid his insight remains, even today, and especially with regard to architecture as recorder.

When architecture reached its apogee and froze in the Gothic cathedrals of the Middle Ages; when the architects allowed themselves a license which was to be seen in the carvings of capitals "intertwined with figures of monks and nuns in disgraceful association," and which showed "Noah's misadventure sculptured literally in the main porch at Bourges," or "a convivial monk with donkey's ears, a drinking glass in his hand, laughing in the face of the whole community," it was not because architecture has ceased faithfully to transcribe human thought but because, even then, it was performing its office with exactitude. The decline then being registered was not that of architecture as recorder but of religion as a faith whose tide of power had already begun to ebb.

Were Victor Hugo alive today, he would acknowledge the misapprehension, the myopia, which evoked the title to his chapter, "This Will Kill That." For architecture as the great stone book of humanity is not dead: it has merely turned another leaf, and has continued to perform its office down to the present moment.

In "the skyline of New York" it has recorded a shift in the center of gravity of human thought in Western Civilization as exemplified in the New World, where the minds of men no longer dwell on the Other World of religion but are coming to be more and more centered upon the business and affairs of This World.

Indifferent to argument, architecture makes its entries with impassive precision. Yet many do not know what they mean whose waking hours are spent in and among those mighty structures the like of which had never before been seen on earth.

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[48] This is not hindsight. On page 92f of his book, ANTHROPOLOGY AND MODERN LIFE, published in Great Britain in 1929, Dr. Franz Boas wrote: "The federation of the nations is the next necessary step in the evolution of mankind." The present author could prove an even earlier appreciation of the trend.

[49] Both Sir James Jeans and Dr. Henry Norris Russell have expressed this view. In 1943, Dr. K. A. Strand located a possibly life-bearing planet in Cygnus. The new theory of the integration of planetary systems proposed by Carl F. von Weizsacher carries this implication, and Dr. Otto Struve, of Yerkes Observatory, U. of Chicago, is quoted as having approved von Weiz-

sacher's theory, as does Dr. George Gamow in his book, "1, 2, 3 . . . infinity," published by The Viking Press in 1947.

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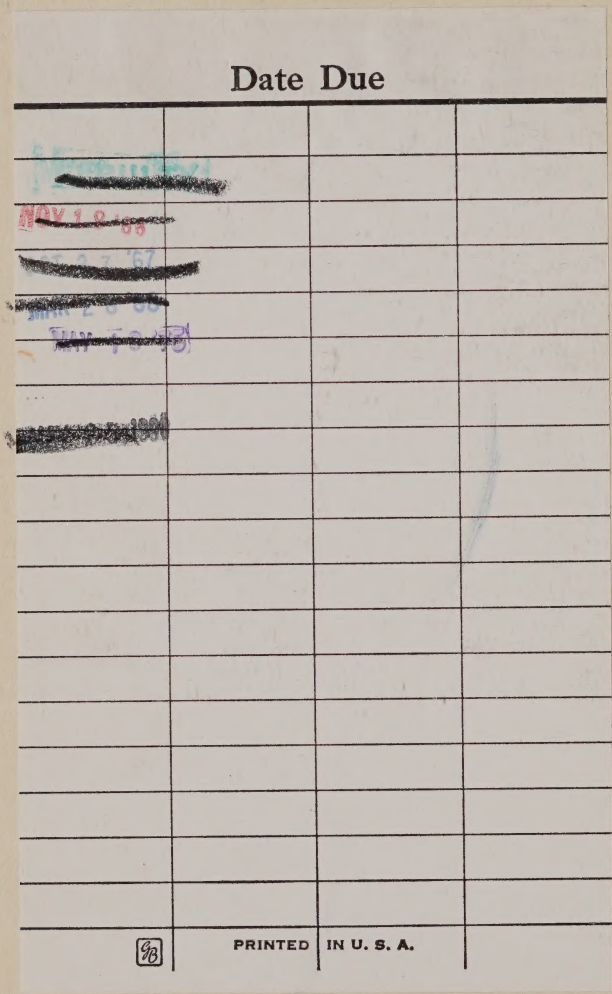
Milman: The Rev. Henry Hart Milman's graphic HISTORY OF THE JEWS is repeatedly referred to in the text.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